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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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GROUNDLESS LIBEL SUITS—BARRATRY.

Barratry, the crime of promoting litigation and urging the bringing of suits where no actual cause exists, is widely practiced in this country, as the large number of groundless libel suits brought against publishers testify. The abuse is especially pronounced in New York, where the Publishers' Association has taken steps to stamp out the evil. The association has offered rewards aggregating \$5,000 for proof against lawyers who have excited groundless actions against a New York daily newspaper. Why shouldn't state associations take similar steps against the shyster lawyers who are the real instigators of nine-tenths of the libel suits brought against publishers?—Newspaperdom.

Shyster lawyers, as mentioned above, may rope in the word barratry and even with the authority of Coke or Blackstone, but it is not according to Gunter. The word barratry is to all intents and purposes a nautical one, meaning a fraudulent act on the part of the master or crew of a vessel, against the interests of the owners. Insurances can be and are effected against the misdemeanor. A well-known nautical authority so defines barratry—"Any fraudulent act of the master or mariners committed to the prejudice of the ship's owners or underwriters, whether by fraudulently losing the vessel, deserting her, selling her, or committing any other embezzlement. The diverting a ship from her right course, with evil intent, is barratry."

Kent, Arnold and Park so define the term—"A fraudulent breach of duty or willful act of known illegality on the part of a master of a ship, in his character of master, or of the mariners, to the injury of the owner of the ship or cargo, and without his consent, and it includes every breach of trust committed with dishonest views, as by running away

with the ship, sinking or deserting her, etc., or by embezzling the cargo."

There are terms enough misapplied already, as for instance, calling a screw steamer a propeller, when propeller is only the means of propulsion used, a steamship, even when schooner rigged, whereas, if correctly applied and wishing to accurately designate, the terms, ship rigged, bark rigged, schooner rigged steamer, etc., should be used; therefore, it clearly follows, that a steamship is a ship rigged steamer. The word mortgage, substituted for a bottomry bond, freight for cargo and a dozen or so of others are becoming nearly correct through custom.

THE ARMOR PLATE QUESTION.

The Senate Committee on Naval Affairs, after hearing Secretary Long, Captain O'Neil, the chief of ordnance, and Commodore Hichborn, the chief constructor, on the subject of the necessity for providing immediately for the armor for the three battleships, Alabama, Illinois and Wisconsin, has decided to report to the Senate a provision authorizing the secretary to make a contract, without advertising, with the Carnegie and Bethlehem companies for this armor at the rate of \$400 per ton. This provision will be offered as an amendment to the naval appropriation bill, and in order to attach it to that measure it must command a majority vote on the floor of the Senate.

LUMBER CARRIERS' ASSOCIATION.

The Lumber Carriers' Association which was recently organized in Detroit, conditional on 60,000 tons carrying capacity being represented in the signatures to the agreement, is now an assured organization. Signatures representing considerable in excess of the required amount have been obtained and the promoters expect that within a few days at least 100,000 tons will be represented in the association. All of the Port Huron vesselowners have joined and nearly every port on the lower lakes is represented in the membership, with a number of owners yet to be heard from, some of whom have already signified their intention to become members of the Lumber Carriers' Association for at least one year.

NOVEL WAY OF FLOATING A VESSEL.

Some little time ago the Russian cruiser Rossia, one of the largest vessels in the Baltic fleet, with a length of 480 feet and a displacement of 12,000 tons, ran on the bank in the Neva in 20 feet of water. The water fell, and the ship pressing on the bank with a weight of 2,500 tons resisted all attempts to free her. The Admiralty appealed to the imperial school at Cronstadt for aid in solving the problem, and divers were sent, who, as it was winter, were forced to work from tents on the ice surrounding the cruiser. Poles were driven into the bottom close to the hull and down these the divers descended, determined by measurement the position of the ship, and communicated the result by telephone. These results were obtained only with the greatest difficulty, for the intense cold prevented the divers from remaining beneath more than half an hour, made brittle their rubber shirts, and necessitated the constant heating of the air pumps. It being found that nearly the whole keel was buried, although the rudder was free, an iron pipe, 60 feet long and two feet in diameter, was inserted under the keel, and a current of water driven through it at high pressure. So strong was this stream that a diver 60 feet from the mouth of the pipe was upset by the current, and the light from the 200 candle-power lamps used by the divers could only penetrate a foot through the turbid water. This device was so successful in washing away the bank which held the keel that the ship was safely and quickly released.

ST. CLAIR—ERIE CANAL.

A proposal to guarantee the bonds of the St. Clair and Erie ship canal is being considered by the Dominion government. A deputation of representative men from counties interested, accompanied by the several members of parliament, presented a petition of the St. Clair and Erie Ship Canal Co., asking for a guarantee of 3 per cent. interest for 20 years on an issue of \$5,500,000 of bonds be granted. The more important of the points touched upon by the delegates were the shortening of the distance between Lake St. Clair and Lake Erie by 79 miles which would decrease the sailing distance and thus increase the number of trips in a season; the avoidance of dangers and delays of the Detroit river route; the lessening of the cost of transports between Fort William and Lake Erie and locally the making effectual of drainage over a very large area of fertile land now only imperfectly drained at a great cost, and the bringing a market equal to that of a large city to the very doors of the farmers and gardeners. It was also shown that the government would not be called upon to pay any of the interest guaranteed as the company would provide for it during construction and after the tolls of less than one-third of the tonnage now passed through the Detroit river would pay the interest on the bonds and all expenses of maintenance and operation. The impression of the delegation is that the government will do all in its power to grant the canal company's request.

PAINT FOR SHIPS' BOTTOMS.

A ship bottom paint consisting of seaweed, which, while green and moist, is ground in oil and mixed with litharge, lead acetate, turpentine and linseed oil, has been patented in England. The coating is said to be not only a good protection against the adhering of shells, but also prevents worms from entering wooden ship bottoms or any wooden submarine constructions. The mode of manufacture is as below:

Into a certain quantity of linseed oil, say 48 liters, put $\frac{1}{2}$ pound of litharge and $\frac{1}{2}$ pound of sugar of lead and boil for 5 hours at 600° Fahr. Now bring this mixture to the right painting consistency with turpentine and add $\frac{1}{2}$ liter of seaweed which has been ground in oil, in the green and wet condition, as gathered on the shore. For coloring, various substances, such as ocher, etc., may be added, whereupon the paint is ready for use.

ONE TRADE—ONE PROFESSION.

A correspondent of the Army and Navy Journal says: "Any marine engineer will tell you that it requires all his time and the closest application and study, in these days of rapid progress, to keep up with his profession. An honest deck officer will tell you the same as regards his occupation. How, then, can the board for the re-organization of the personnel of the navy make a man proficient in both? The writer has personally known naval officers who could figure, to a fraction of a pound, the lifting strength of a seven-inch hawser-laid rope, but who, when one was shown to them, could not tell it from a six-inch regularly-made rope. If it be impossible for naval officers to master all the practical details of their present calling, what will it be when they have marine engineering added?"

The finest passenger steamers on Lake Michigan are the Virginia, Manitou and Christopher Columbus, the latter of the whaleback type. On the Lake Superior route the finest steamers are undoubtedly the North Land and North West; they are said to have cost \$700,000. They have 150 state-rooms and can accommodate about 450 people. The Clyde-built Canadian-Pacific steel steamer Alberta can make about fifteen miles an hour. Her sleeping rooms are arranged on the English style of single berths, and she can accommodate about 150 persons.

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NEWS AROUND THE LAKES.

BUFFALO.

Special Correspondence to the Marine Record.

A Buffalo man who was along Lake Ontario last week says he did not see a pound of ice on the lake.

George Hall & Co., of Ogdensburg, are building a ninety foot tug for the river towing trade. The Kingsford works at Oswego will furnish the boiler and engine.

Two large marine firebox boilers are being placed in the Western Transit Company's steamer Boston. They are 9 1/2 feet in diameter and 15 1/2 feet long. Each weighs 40 tons.

Having been thoroughly repaired the steamer Chemung has now been taken out of dry dock, overhauled and alterations and repairs to her upper works continued. The Owego will immediately take the Chemung's place in the dock for similar work.

Buffalo slip is being enlarged for the accommodation of larger boats, by the removal of a portion of the Kellogg's elevator dock. Other slips will be obliged to follow suit, as the increased dimensions of freight steamers finds the unloading slips too small to accommodate the boats readily.

The funeral of Capt. James Stuart took place here on Wednesday afternoon. He was a member of the Masters' and Pilots' Association. Capt. Stuart was mate last season of the steamer St. Louis, under Capt. Allen, and was popular among marine men, especially in this port, where he was best known.

It is believed by many representatives of transportation lines that navigation will open not later than April 1st. Last year April 20th was the date. "It doesn't so much matter whether there is plenty of freight ready for shipment or not," said a prominent line official. "Everyone will be anxious to get the first chance at what there is, and boats will undoubtedly start just as early as possible."

CHICAGO.

Special Correspondence to the Marine Record.

The schooner Middlesex was towed this week to the Illinois Central elevator to load grain.

The steamer Tuscarora is in the Chicago Ship Building Co.'s dry dock receiving 12 new bottom plates and some new frame and floor.

Chief engineer William Miller of the steamer I. W. Nicholas is here looking after necessary repairs on the engines and boilers of the Minch fleet of steamers.

Fred Rogers chief engineer of the Lehigh Valley Transportation company is here looking after necessary repairs to the machinery and boilers of the company's steamers laid up here.

Capt. C. Z. Montague, last year master of the steamer Geo. N. Orr, has been appointed master of the steamer Pontiac, and George Waterbury has been appointed chief engineer of that steamer.

Robert Learmont chief engineer of the Anchor line is here looking over the machinery and boilers of the Anchor line steamers in winter quarters here, for the purpose of having necessary repairs done prior to fitting out.

At Miller Brothers' shipyard, the Anchor line steamer Delaware is in dock receiving a new piece of keel aft, new stern post, some new beams, a number of new stanchions, new bulwarks all around, part new wale strakes, a general overhauling and re-calking.

The following persons have been initiated as members of Chicago Harbor 33, American Association of Masters and Pilots during the month of February: Captains, Augustus Atkinson, Alex. Cleghorn, A. G. Kohnert, Joseph Reddin, P. H. Griffen, James Carr.

Judson Waters, aged 23 years, of Grand Rapids, Mich., a deckhand on the Goodrich Transit Co.'s steamer Atlanta, while engaged with the mate in fastening the canvas cover on one of the forward life boats, last week, fell overboard and was drowned, between Sturgeon Bay and Ahnapee.

There is no telling what may transpire in the near future, but at present grain freights are not what was expected and instead of tonnage coming here from west shore ports to load there is likely to be an overplus of bottoms reaching this port on the early opening of navigation with a corresponding falling in freight rates.

John Cairns, sailmaker, has gone into business on his own account and has a sail loft at 160 97th street South Chicago, over the South Chicago Ship Building Company's store. He is widely known among marine men, having been with the H. Channon Co. and Geo. C. Finney & Co., Chicago, for many years, prior to which he was with Vosburg & Baker, Buffalo, and Upson & Walton, Cleveland, and he hopes by doing good work to gain the patronage of many of his old friends.

The Independent tug line, desiring to forward the interest of their patrons, will in future keep at their office, 240 South Water street, Chicago, a "Register Book" in which all the officers of vessels can register their names with residence, occupation, name of boat they are engaged on, their position and the grade of their license. All those who register will have their mail or messages forwarded immediately, and when

out of employment their names and addresses will be given or forwarded to any one requiring an officer or officers for any vessel on the lakes.

O. S. Richardson & Co., 225 Dearborn street, shippers of anthracite and bituminous coal, and fueling agents, are sending to their patrons and friends in the trade a very useful eight-page slate book for use at the telephone or for the order desk. It is of convenient size, 6 1/2 x 9 1/4 inches, strongly bound in red leather with receptacle for holding the slate pencil. The name of the firm and docks are handsomely stamped in gold on the front cover. This is one of the conveniences for the order desk or telephone, which will be appreciated by the recipients.

At J. B. Bates & Co.'s shipyard, the schooner Alice is receiving new decks, also three new deck beams which became necessary in consequence of changing her hatchways, a new mainmast, new rail and chocks forward on each side, the steamer G. G. Hadley is having her ceiling calked, the Livingston some new deck, the schooner Lake Forest, a new transom, the steamer W. H. Gratwick, part new deck and chocks, W. H. Gratwick No. 2 (steel) repairs to wale strakes. The steam canal boat Novelty a new cabin, the steamer J. H. Prentice had her decks calked, the schooners Halsted and Middlesex and steamer Sachem received general repairs, the steamer Progress, some new floor and rail.

The steel steamer William R. Linn, built by the Chicago Ship Building Company, for the Elphicke-Orr syndicate will be launched next Saturday afternoon at 3 o'clock. The dimensions of this steamer are 400 feet keel, 420 feet over all, beam 48 feet, molded depth 28 feet, water bottom 4 1/2 feet, tonnage 4,000 tons, engine quadruple expansion with cylinders 21 and 29 and 42 and 64 by 42 stroke, built by the Chicago Ship Building Company. 2 Scotch type boilers 14 feet 8 in. by 12 feet 6 inches, built by John Mohr & Sons. William R. Linn of Chicago after whom the steamer is to be named is a large shareholder in the syndicate. Captain John Massey will be master of her, and M. Toner chief engineer.

The many friends of Andrew Ritter of Chicago will regret to learn that he has been suffering since August last from cancer of the stomach and that there is but slight hope of his recovery. Andrew Ritter is one of the oldest members and a Past National President of the M. E. B. A., and he is held in high esteem by all members of the association and a host of other friends. He retired from the lakes several years ago to take charge of the Link Belt company of this city, and he afterwards took the position of assistant master mechanic of the Illinois Central Railroad company, which he was holding when he was taken sick in August last.

PORT HURON.

Special Correspondence to the Marine Record.

There is ice up Lake Huron as far as the eye can see, from four miles above the light-house.

The friends of John Ivers, Jr., of Detroit, will be pleased to hear that the report of his being seriously ill of cancer of throat is false. John is enjoying the best of health.

Mr. and Mrs. George Tebo, of Chicago, arrived in Port Huron on Wednesday evening and will spend the next week visiting friends. Capt. Tebo does not look a day older than when he left Port Huron eight years ago.

L. K. Boynton has purchased the Soo river telephone line. The system is 60 miles long, extending from Sault Ste. Marie to Sailors' Encampment. The purchase was made in the interest of the Thompson Tug Line.

Frank Yokom has been re-appointed agent for the Detroit and Cleveland line of steamers at this port for the coming season. Both boats have been extensively repaired, and eighty staterooms added during the winter.

Congressman Snover has notified Mrs. Charles Mills that he will introduce a special bill in Congress to give her a pension. Mrs. Mills' husband lost his life in an effort to save the crew of the schooner Shupe, some years ago.

The Eagle Transportation company, of China, has filed its annual report with the county clerk. The report shows capital stock, \$150,000; paid in, \$80,000; and property, the Oscar T. Flint, valued at \$88,000. The insurance on the boat is \$65,000.

Capt. George Tebo, of Chicago: "The people of the United States are going to engage in war with Spain, and it will be a mighty good thing for the unemployed in this country. I want to tell you that there are 200,000 men in Chicago who are good for nothing else except to stop bullets."

Ed. J. Kendall calls the attention of The Times to the fact that the scow George Irwin lies in the middle of Black river above the Fiber Works. He says that unless some action is taken to anchor the boat or to make it fast to the shore it is liable to do considerable damage at the time of the break up of ice in the spring.

John L. Black, secretary of the Kintyre Mining company, received word this week from the manager of the business at Rossland, that gold has been struck in paying quantities. Mr. Black is jubilant in consequence. Capt. John McArthur has a large interest in this mine. The captain feels very good over the results and hopes for a good paying mine.

A telegram was received in this city on Saturday afternoon announcing that Charles Montgomery aged 21 years, of this city, was wheelsman on the ill-fated steamer Clara Nevada,

which was wrecked off the coast of Alaska last week. It is believed that the entire crew and the passengers were drowned. Young Montgomery was a brother of Capt. James Montgomery, of the steamer Kittie Forbes, and was wheelsman all last summer on the steambarge Spokane. At the close of navigation he left for the Pacific coast and secured a position on the Clara Nevada.

There is still no move to fix the season's hull rates, and it is more than likely that both sides will wait as long as they are able before committing themselves, especially as neither syndicate gained a lead worth mentioning last season. The policy of the two may be defined as "strike out" and "lie low"—the McCurdy people undertaking to lead in enterprise and originality of ideas and therefore spending the most money, and the Buffalo syndicate undertaking to gain by close watchfulness of their opponent and keeping their moves well out of sight.

SHEBOYGAN.

Special Correspondence to The Marine Record.

Paul Kuchling left here last Sunday for Buffalo to ship as oiler on the steel steamer Empire City.

The grandfather of Mr. Peter Reiss, of the C. Reiss Coal Co., was buried here last Tuesday, aged 87 years.

Charles Bendschneider, formerly of this place, is here this week visiting friends and relatives. He filled the position last season as chief engineer on the steamer Omaha, and expects to go to Ogdensburg in another month to fit out the same steamer again.

Mayor Born and Messrs. John R. Reiss, Gus. Huette, and E. P. Ewer left here to-day for Washington as the committee appointed by the council to do all they could favoring the harbor and river improvements, a breakwater forming one of the important improvements in view.

The first arrival of the season was the schooner Christiana, which arrived here Sunday from Two Rivers with a cargo of produce. She is owned by Nelson Jepson, and hails from Washington Island. She was towed here by the tug Andrew, and made the trip in three hours.

The contract was let a week ago for building a new dock on the south side of the river opposite Crocker factory B. The material will be furnished by and the work performed by Reibolt, Wolters, & Co., to whom the contract was awarded. The work will be performed under the supervision of Capt. Ole Groh. Mr. Wolters has left on a trip to purchase piles for the docking, and the work of building the structure will begin as soon as the material is on the ground.

Capt. Wm. Van Patten, of Milwaukee, appointed by David Vance & Co., of Milwaukee, as inspector of vessels for the Inland Lloyd's Insurance Co., has completed the examination of the vessels in Sheboygan harbor and has proceeded to Manitowoc and Green Bay, whence he goes to Sturgeon Bay, Marinette and other west shore points on the same mission. Capt. Van Patten spent four days in Sheboygan in examining the boats wintering here. Capt. Van Patten commanded the big steamer Roswell P. Flower, one of the Vance fleet. Vance & Co. are the agents of the Inland Lloyd's, and it is their duty to appoint an inspector to determine the value of all vessels wintering at ports on the west shore of Lake Michigan between Milwaukee and Escanaba. Each vessel is inspected and the rating is based on the result of the inspector's report. The smaller classes of vessels which are not insurable and which therefore are given no rating, are not inspected. Capt. Van Patten spends four or five days in Manitowoc, an equal time at Green Bay, and will probably spend another month in visiting other points on the west shore of the lake.

DETROIT.

Special Correspondence to The Marine Record.

"I do not look for an early opening of navigation," said a Detroit vesselowner. "Last year our boats started out about the middle of April. The season on Lake Superior hardly opens before May 1. I cannot see that owners have any reason to feel encouraged. Still, the season cannot be any worse than last year. If we get 25 cents on coal and 65 cents on ore I suppose we should feel satisfied."

The state board of arbitration met here on Wednesday and reviewed the testimony taken in the matter of the strike of the riveters employed in Wheeler & Co.'s shipyard at Bay City. The board's verdict is that the 1897 rate he paid to all employes, and the riveters' and setters' wages to be \$2.50 for a ten-hour day. The rate offered by the company was \$2.25, but both sides had agreed to stand by the result of the arbitration.

The Frontier Iron Works report that they now have ready for the market four sizes of their new Frontier vertical gas and gasoline engines, and that other sizes will be ready about March 1. This engine is designed especially for powers ranging from 1 to 10 h. p. Above this size they build their two cylinder Frontier tandem in sizes from 10 to 100 h. p. They report a largely increased demand for both types, especially for pumping and mill work.

A fire started on board the new steamer City of Erie Monday. The new boat was lying at the Wyandotte yard of the dry dock company, and about 4 o'clock in the afternoon smoke was seen curling up through the deck at the bow. A workman went into the interior and found a lively fire well under way. Men were summoned and an alarm telephoned

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to the fire department, which quickly responded. However, through the work of the men in flooding the burning section, little damage was done to the boat, though scaffolding and loose lumber in her hold burned. There will be no detention on account of the little extra work, as the total damage can not exceed about \$500 and the fitting up of the fine new passenger steamer will be carried on as briskly as possible.

Capt. John S. Quinn, a submarine diver and wrecker for nearly 40 years, has a poor opinion of the job being done by the divers and wreckers on the battleship Maine. He says the easterners are slow and unreliable. Men-of-war divers do not amount to much. They lack practical experience. They have been used chiefly to scrape ship's bottom and work of that kind. I see no reason why the divers should not go through the Maine in two days. Take the job on the William Chisholm, sunk at the Flats in collision in '96, for comparison. The Chisholm was of 1,581 tons burden, 2,546 feet long and 19 feet deep. The Maine was of 3,120 tons burden, 301 feet long and 21½ feet deep. The Chisholm had practically her whole side out, yet we raised her inside of six days and at expense of about \$5,000. The Maine is a three-decker which of course makes it more difficult. The water in the harbor at Havana is not deep, if the pictures of the wreck are accurate. If the report that the sailors opened the aft ports to let the water into the ship is true, then those compartments should be pumped out. It is pumps they want, not tugs. The Merritt Wrecking & Salvage Co., which is doing the work, once did business on the Great Lakes as the Coast Wrecking Co. An attempt was made to raise the Wabash, but failed. Afterward one of our lake wreckers raised the sunken steamer.

CLEVELAND.

Special Correspondence to The Marine Record.

Capt. J. G. Keith, C. W. Elphicke and Myles Barry, all of Chicago, and J. B. Wolvin, of Duluth, visited this port during the week.

A representative of Johnson & Higgins is said to have closed up some large insurance deals here this week under special arrangements.

The first coal cargo of the season has already been loaded by the Menominee line steamer Saxon at Ashtabula. The steamer German is to be loaded next.

Work at the yards of the Globe Iron Works Co. is being carried on with the usual briskness and all contracts on hand will be turned out promptly on time.

From present indications April 20th is spoken of as the probable date of the first start for Lake Superior ports, but this will, of course, depend on ice reports sent out from upper lake points.

It is the present intention of the owners of the steamer Flora, formerly in the Grummond line, to place her on the Cleveland-Port Stanley route this season and develop a brisk passenger and cargo trade.

Mr. Newman, general manager of the C. & B. line, does not expect to open communication with Buffalo earlier than about April 1, although an early attempt will be made to run to Sandusky and Toledo with the steamer State of New York.

The Pontiac, following closely after the Stephenson, docked on Wednesday at the Lorain dry dock of the Cleveland Ship Building Co. There is quite a lot of work booked ahead for this large new dock and every facility is on the ground for repairing damage.

It is now expected that the D. & C. line will open up their route in about two weeks. This, as usual, will mean the initial step in the opening of navigation and calls for the aids to navigation being located at as early a date thereafter as practicable. The re-lighting of light-houses, gas buoys and the placing of buoys and beacons for guides by day are in order after it has been demonstrated that moderately clear water has been experienced.

There has been a 25 cent rate on coal for Lake Superior flying around this week, but it is not learned that any of it has been placed at this figure. In fact, indications are all the other way just now and shippers feel like holding off for a few weeks yet. It is said that the western supply will hold out until May 1 and as there may be trouble again with the miners in the Ohio district shippers are not closing contracts for stated delivery as they did last season, hence, no chartering is being done.

FLOTSAM, JETSAM AND LAGAN.

The following was found written upon one of the chairs in Mr. Lok's recitation room, and is a specimen of the wit of the fair sex of the Class of '00:

"Have you seen 'Crabb's Tales'?"
"I didn't know crabs had tails."
"Well, I mean, read 'Crabb's Tales'?"
"Why, I didn't know red crabs had tails, either."

Buck E. T. Plank, in the Waterway's Journal, St. Louis, quotes the following philosophical maxims:

Don't kick if the cook sells the grease saved in the kitchen. He works 16 hours a day and gets paid for 8 hours.

You notice the steamboat man who never eats any sweet stuff at the table; he always has a bottle under his pillow.

When a man thinks a boat can run without him, it is time to change. If the boat don't blow up, the man will.

BIDS FOR DREDGING.

Abstract of proposals received at Duluth, Minn., opened February 28, 1898, by Major Clinton B. Sears, Corps of Engineers, U. S. A., for dredging in Portage Lake ship canals, Keweenaw Point, Mich. Amount proposed to be expended on this work, \$80,000,

| No. of Bid. | NAME AND ADDRESS OF BIDDER. | For Dredging, per Cubic Yd., Scow Measurement. | | | For use of Dredging Plant, Per Hour. | Total. |
|-------------|--|--|--|--|--------------------------------------|--------------|
| | | Section 1. 50,000 cubic yards. Cents. | Section 2. 100,000 cubic yards. Cents. | Section 3. 800,000 cubic yards. Cents. | | |
| 1 | Carkin, Stickney & Cram, Detroit, Mich. | 17 | 20 | 9 | \$14 00 | \$100,500 00 |
| 2 | The Lydon & Drews Co., Chicago, Ill. | 22 | 24 | 12 | 16 00 | 131,000 00 |
| 3 | C. E. Mitchell & Co., Ludington, Mich. | 19 | 19 | 10 | 9 00 | 108,500 00 |
| 4 | Green's Dredging Co., Chicago, Ill. | 15 | 25 | 12 | 10 00 | 128,500 00 |
| 5 | The L. P. & J. A. Smith Co., Cleveland, O. | 20 | 24 | 12 | 15 00 | 130,000 00 |
| 6 | Arthur H. Vogel, Milwaukee, Wis. | 14 | 17 | 10 | 15 00 | 104,000 00 |
| 7 | Adolph F. Bues, Milwaukee, Wis. | 10 | 12 | 8 | 10 00 | 81,000 00 |
| 8 | James Pryor, Houghton, Mich. | 11 | 14 | 9½ | 10 00 | 95,500 00 |
| 9 | Racine Dredge Co., Racine, Wis. | 10 | 14.9 | 7 | 9 00 | 75,900 00 |
| 10 | G. H. & J. B. Breymann, Toledo, O. | 14 | 15 | 9 | 15 00 | 94,000 00 |
| 11 | Green Bay Dredge & Pile Driving Co., Green Bay, Wis. | 20 | 12 | 8 | 10 00 | 86,000 00 |
| 12 | Illinois Dredging Co., Chicago, Ill. | 12 | 20 | 9 | 15 00 | 98,000 00 |

APPOINTMENT OF OFFICERS.

Buckeye Steamship Co., Capt. C. L. Hutchinson, manager, Cleveland: Steamer—City of Glasgow, captain, John McNeff; engineer, C. R. Price.

Kelley Island Lime & Transport Co., Cleveland: Steamer—A. Y. Gowen, captain, Charles Smith; engineer, Charles C. Smith.

Ohio & Pennsylvania Transportation Co., Cleveland: Steamer—Alcona, captain, W. T. Sutherland; engineer, A. McGregor.

Cleveland & Buffalo Transit Co., Cleveland: Steamers—City of Erie, captain, John Edwards; engineer, J. G. Randall; pilot, W. J. Willoughby; steward, J. M. Leishman; purser, A. D. McLachlan. City of Buffalo, captain, W. H. Smith; engineer, A. Milroy; pilot, George Ransier; steward, J. Barron; purser, C. W. Piner. State of Ohio, captain, A. H. McLachlan; engineer, Charles Lorimer; pilot, K. Finlasen; steward, W. Portwood; purser, —. State of New York, captain, H. McAlpin; engineer, William Sten; pilot, —; steward, H. Boyd; purser, D. McIntyre.

Detroit & Cleveland Navigation Co., Detroit: Steamers—City of Detroit, captain, Alex. J. McKay; engineer, Wm. S. Huff. City of Cleveland, captain, Archie McLachlan; engineer, John Sargeant. City of Alpena, captain, Matthew Lightbody; engineer, A. Phillips. City of Mackinac, captain, H. J. Slyfield; engineer, William McDonald. City of the Straits, captain, Duncan McLachlan; engineer, James Middleton.

Lake Superior Iron Co., Cleveland: Steamers—LaSalle, captain, William Ames; engineer, Frank Steadly. Joliet, captain, Charles Hinslea; engineer, F. B. Smith. Wawatam, captain, Ed. Mooney; engineer, A. E. Bury. Griffin, captain, Henry Peterson; engineer, J. F. Mahaney. Andaste, captain, Emil Detlefs; engineer, W. H. Kennedy. Chocaw, captain, Benson Fox; engineer, C. E. Walsh.

Republic Iron Co., Cleveland: Steamers—Republic, captain, E. T. Rattray; engineer, William Lowe. Specular, captain, William Megarvey; engineer, John Smith. Continental, captain, H. Rogers; engineer, —. Schooners—Magnetic, captain, W. A. Black. Grace Holland, captain, B. M. Landfair.

Hutchinson, J. T., Cleveland: Steamers—Germanic, captain, M. H. Place; engineer, G. W. Bedolph. Queen of the West, captain, C. J. Debeau; engineer, P. Cain. Rube Richards, captain, L. G. Vosburg; engineer, J. C. Johnson. Schooners—E. C. Hutchinsou, captain, T. K. Woodward. May Richards, captain J. J. Martin.

Mona Transportation Co., W. W. Brown, manager, Cleveland: Steamer—George Presley, captain, C. D. Woodward; engineer, O. Schneider. Schooner—N. Reddington, captain, William Packer.

The Hopkins Steamship Co., St. Clair, Mich., appointed officers for their steamer Centurion for the coming season as follows; captain, David Hutcheson; engineer, Thos. Welsh.

J. B. Miller, Toronto, Ont., steamer Seguin; captain, J. B. Symes; engineer, Samuel Gillespie.

Roby Transportation Co., Detroit, steamer L. C. Waldo, captain, John Duddleston; engineer, J. Collins.

OBITUARY.

(THE LATE SAMUEL F. LEOPOLD.)

Samuel F. Leopold, one of the pioneers of the lake carrying trade in the West, and President of the Lake Michigan and Lake Superior Transportation company, died on Saturday last at his home, 3339 Michigan avenue, Chicago. He had been ill for nearly a month, and, although the members of the family who live outside the city were still about him, it was thought the danger had passed and that the patient was recovering. Late on Friday night he suffered a severe hemorrhage, from which he did not rally, gradually sinking until death came.

Mr. Leopold was a well known figure in marine enterprises through his position as president of the company, owning the Manitou, City of Duluth, City of Traverse, Peerless, and Jay Gould. The City of Duluth had hardly finished pounding to pieces on the bar at St. Joseph when her principal owner contracted the illness which resulted in his death. Mr. Leopold was also a member of the firm of Leopold & Austrian, commission merchants, Chicago.

Mr. Leopold was born seventy-two years ago at Riechen, Grand Duchy of Baden, Germany. He came to the United States in 1845 with his brothers—Louis F., Henry F., and Aaron F. Leopold. They settled first at Mackinaw, where they engaged in different frontier occupations. Samuel Leopold was given charge of a sloop engaged in trading with the Indians. Later Nathan F. Austrian joined him in a trading store enterprise on the Eagle river. This was near the famous Cliff copper mine, and some of the lands he secured at that time are now promising large returns. They established a branch store at Eagle Harbor, Mich., and later were located at Hancock, Mich. In 1865 the headquarters of the firm was moved to Chicago, and Mr. Leopold had been a resident of that city ever since.

Mr. Leopold was married in Germany in 1848, and his widow survives him. The children are Nathan F. Leopold, 2901 Michigan avenue; Alfred F. Leopold, who lived at the family residence; Mrs. H. Greenebaum, 3337 Michigan ave.; Mrs. S. B. Steel, 3123 Calumet avenue; Mrs. E. D. Kohn, New York City; and Miss Celia F. Leopold, who lived at home. There are also two sisters, Mrs. Haber, of Chicago, and Mrs. Julius Austrian of St. Paul.

Mr. Leopold was a member of the Standard Club, Sinai Temple, Chicago Lodge of Masons, and the Board of Trade. He was a large giver to the Hebrew and other local charities and prominent in many things outside his business. Although old in years, his interest and activity in all business was as strong as ever.

The funeral took place at the house at 9 o'clock on Tuesday morning under the direction of Dr. Emil G. Hirsch and the interment at Rosehill. Many marine men attended the funeral.

CYMRIC'S FIRST EASTWARD CARGO.

The new White Star liner Cymric sailed from New York on Tuesday on her first return trip with a full cargo. Among the principal items were 700 head of cattle 1,002 sheep, 199 horses, 42,856 bushels of corn, 59,883 bushels of wheat, 13,413 bales of cotton, 8,093 pigs of lead, 3,231 sheets of steel, 1,061 barrels of oil, 1,313 barrels of wax, 710 barrels of glucose, 500 barrels of syrup, 1,580 barrels of grease, not to mention a large quantity of other miscellaneous freight. In addition to her cargo capacity she has accommodation for about 1,000 passengers. This great vessel is 600 feet long and 42 feet deep, with a gross tonnage of 12,240 tons and a displacement of 23,000 tons. On her trial trip she made about seventeen knots an hour, which is very fast for a ship primarily designed for cargo carrying.

LIQUID FUEL FOR RUSSIAN WAR SHIPS.

Plans have been prepared by Russia for the construction at Kronstadt of a depot for the storage of liquid fuel, for the burning of which the new Russian warships are being fitted. The tanks in the depot will have a capacity of 17,000 tons, and in the building of them old marine boilers are to be used. A special iron vessel of 1,000 tons burden is to be constructed, fitted with all necessary apparatus, for the transport of the petroleum fuel from the shore to the ships. The result of these experiments will be watched with a good deal of curiosity in all naval circles.

THE MARINE RECORD.

AMENDED STEAMBOAT RULES AND REGULATIONS.

TREASURY DEPARTMENT,
OFFICE OF THE SUPERVISING INSPECTOR-GENERAL,
WASHINGTON, D. C., Feb. 23, 1898.

To Supervising and Local Inspectors of Steam Vessels and others:

At the regular meeting of the Board of Supervising Inspectors of Steam Vessels, held in the Lenman Building, Washington, D. C., January and February, 1898, in pursuance of section 4405, Revised Statutes of the United States, amendments were made to rules I, II, V, and IX of the General Rules and Regulations.

The pilot rules for the Atlantic and Pacific coast, inland waters, and the Great Lakes, were amended, and will be printed separately in pamphlet form for distribution by the local inspectors of the various districts to masters and pilots, in addition to the copies required to be framed under glass on each steam vessel. These amendments to the rules, having received the approval of the Secretary of the Treasury, have now the force of law, as provided in section 4405, Revised Statutes, and must be observed accordingly.

Following is the text of the rules amended in part only, the parts stricken out inclosed in brackets [thus], while the additions to such paragraphs are printed in *italics*. Entirely new sections and paragraphs of sections are in plain type preceded by the word (new) in parentheses.

JAS. A. DUMONT,
Supervising Inspector-General, President of the Board of
Supervising Inspectors.

Approved Feb. 23, 1898.

L. J. GAGE, Secretary of the Treasury.

RULES.

RULE I.

SECTION 3. (Fifth paragraph.)

The sample must show, when tested, an elongation of at least 25 per cent. in a length of 2 inches for thickness up to one-fourth inch, inclusive; in a length of 4 inches, for over one-fourth to seven-sixteenths, inclusive [in a length of 8 inches, for over seven-sixteenths to 1 inch, inclusive; and in a length of 6 inches, for all thickness over 1 inch], in a length of 6 inches for all plates over seven-sixteenths inch thickness and under one and three-fourths inches thickness.

SEC. 6. (First paragraph.)

* * * All steel plate over three-fourths inch thickness, and less than one and three-fourths inches thickness, shall show a reduction of not less than [forty] (40) 32.5 per cent.

RULE II.

SEC. 2. (Second paragraph.)

All boilers built for marine purposes after July 1, [1897,] 1898, shall be required to have all the rivet holes [in the shell] "fairly drilled" instead of punched, and the longitudinal laps of their cylindrical parts double riveted, to be entitled to 20 per cent. additional pressure. [Also that steel plates of one-half inch thickness and over for all boilers shall have all the rivet holes in the shell "fairly drilled instead of punched."]

SEC. 6. (First paragraph.)

No braces or stays hereafter employed in the construction of boilers shall be allowed a greater strain than six thousand (6,000) pounds per square inch of section, and no solid or hollow screw stay bolt shall be allowed to be used in the construction of marine boilers in which salt water is used to generate steam unless said screw stay bolt is protected by a socket. But such screw stay bolts without socket may be used in staying the fireboxes and furnaces of such boilers and elsewhere when such screw stay bolts are drilled at each end with a hole not less than one-eighth inch diameter to a depth of at least one-half inch beyond inside surface of sheet, when fresh water is used for generating steam in said boilers (to take effect on and after July 1, 1898, on all boilers contracted for or construction commenced on or after that date). Water used from a surface condenser shall be deemed fresh water. The flat surface at back connection or back end of boilers may be stayed by use of a tube, the ends of which being expanded in holes in each sheet beaded and further secured by a bolt passing through the tube and secured by a nut. An allowance of steam shall be given from the outside diameter of pipe. For instance, if the pipe used be 1½ inches diameter outside, with a 1¼-inch bolt through it, the allowance will be the same as if a 1½-inch bolt were used in lieu of the pipe and bolt. And no brace or stay bolt used in a marine boiler will be allowed to be placed more than 10½ inches from center to center to brace flat surfaces on fireboxes, furnaces, and back connections; nor on these than at

a greater distance than will be determined by the following formulas. *Flat surface on heads of boilers may be stiffened with doubling plate, tees or angles.*

SEC. 6. (Second paragraph.)

The working pressure allowed on flat surfaces fitted with screw stay bolts riveted over, screw stay bolts and nuts, or plain bolt with single nut and socket, or riveted head and socket, will be determined by the following rule: * * *

SEC. 6. (Seventh paragraph.)

Flat part of boiler head plates when braced with bolts having double nuts and a washer at least one-half the thickness of head, and of a size equal to seven-eighths of the pitch of stay bolts, or where heads have a stiffening plate, either on inside or outside, covering the area braced, will equal the thickness of head and washers. * * *

SEC. 8. (First paragraph.)

8. The following table shall include all riveted and lap-welded flues exceeding 6 inches in diameter and not exceeding 40 inches in diameter, not otherwise provided for by law.

For any flue requiring more pressure than is given in table, the same will be determined by proportion of thickness to any given pressure in table to thickness for pressure required, as per example:

A flue not over 19 inches diameter and 3 feet long requires a thickness of .39 of an inch for 176 lbs. pressure, what thickness would be required for 250 lbs. pressure?

176 : .39 : 250 : .5539, or a thickness of .554 inch.

Or if .39 inch thickness gives a pressure of 176 lbs., what will .554 inch thickness give?

.39 : 176 : : .554 : 250 pounds pressure required.

* * *

SEC. 13. Repealed.

[Riveted and lap-welded flues exceeding 6 inches in diameter, and not exceeding 40 inches in diameter, required to carry a working steam pressure per square inch exceeding the maximum steam pressure prescribed for any such flue in the table of section 8 of this rule, shall be constructed under the provisions of section 15 of this rule, and limited to the working steam pressure therein provided for furnace flues; but in no case shall the material in any such riveted or lap-welded flue be of less thickness for any given diameter than the least thickness prescribed, in the aforementioned table, for flues of such diameter.]

SEC. 15. (Third paragraph, page 33, Rules and Regulations, 1897, amended.)

All vertical boiler furnaces constructed of wrought iron or steel plates, and having a diameter of over 42 inches or a height of over 40 inches, and crown sheets of flat-sided furnaces, if made within a radius of over 21 inches, and all cylindrical shells of back connections having a radius of over 21 inches, shall be stayed [with bolts] as provided by section 6 of Rule II, for flat surfaces: *But the cylindrical shell of bottom of back connections may be stiffened by angles or tees secured with rivets spaced no more than 6 inches from center to center, the distance from center of rivets at edge to center of tee, or from center to center of tees, not to exceed 24 inches, tees and rivets to be of suitable section for the pressure and radius of surface braced.* * * *

SEC. 21. (Addition to second paragraph, new.)

Provided, That manhole opening in front head of externally-fired boilers, under the flues, as required by section 4434, United States Revised Statutes, shall be of dimensions not less than 8 by 12 inches in the clear.

SEC. 38. (Second paragraph, page 42, Rules and Regulations, 1897.)

When holes exceeding 6 inches in diameter are cut in boilers for pipe connections, man and hand hole plates, such holes shall be reinforced, either on the inside or outside of boiler, with reinforcing plates, which shall be securely riveted to the boiler, rivets spaced as for stay bolts as determined by section 6, Rule II, such reinforcing material to be of [with] wrought-iron or steel rings of sufficient width and thickness of material to equal the amount of material cut from such boilers. * * *

RULE V.

SEC. 1. (New paragraph following first paragraph.)

Mates, assistant engineers, or second-class pilots serving under five-years license, entitled by license to raise of grade, shall have issued to them new licenses for the grade for which they are qualified, the local inspectors to forward to the Supervising Inspector-General the old license when surrendered, with the report of the circumstances of the case. New licenses may also be issued in the case of license lost by wreck, fire, or any other cause, upon a satisfactory showing of such loss to the inspectors, duly sworn to.

SEC. 1. (New paragraph at end of section.)

Applicants for license as master or pilot of steam vessels

of the naval militia, after passing an examination for color blindness, may be examined by the inspectors as to their knowledge of the pilot rules and handling of vessels, and if the applicant be found qualified in the judgment of the inspectors he may be granted a special license as master or pilot on such vessels on the waters of the district in which such license is granted, and for no other purpose.

All licenses issued to officers of the naval militia provided for in the preceding paragraph of this section, or in section 3 of this rule, shall be surrendered upon the party holding it becoming disconnected from the naval militia by resignation or dismissal from such service; and no license shall be issued as above except upon the official recommendation of the chief officer in command of the naval station of the State in which the applicant is serving.

The following classes of engineers are omitted from section:

[Chief engineer of condensing freight, towing and fishing steamers; chief engineer of noncondensing freight, towing, and fishing steamers; first assistant engineer of condensing freight, towing and fishing steamers; first assistant engineer of noncondensing freight, towing and fishing steamers; second assistant engineer of condensing freight, towing and fishing steamers; third assistant engineer of condensing freight, towing and fishing steamers.]

SEC. 2. (New paragraph preceding classifications of "Second Assistant" engineers.)

Any assistant engineer of ocean steamers of 1,500 gross tons burden and over, having had actual service in that position for one year, may, if the local inspectors in their judgment deem it advisable, have his license endorsed to act as chief engineer on lake, bay, sound, or river steamers of 750 gross tons or under.

SEC. 3. (New paragraph.)

Any applicant for license as chief engineer or assistant engineer of steam vessels of the naval militia may be examined by inspectors and granted a special license as such, and for no other purpose, if, in the judgment of the inspectors, he be qualified. [See last paragraph of section 1 of this rule.]

SEC. 5. (Amended.)

5. No person shall receive an original license as engineer or assistant engineer, except for special license on small pleasure steamers of 10 tons and under, and ferryboats, saw-mill boats, pile-drivers, and other nondescript similar small vessels, navigated outside of ports of entry and delivery, who has not served at least three years in the engineer's department of a steam vessel, a portion of which experience must have been obtained within [two] three years preceding the application.

SEC. 5. (New paragraph at end of section.)

Any person may be licensed as engineer (on Form 2130½) on vessels propelled by gas, fluid, naphtha, or electric motors, of 15 tons gross or over, engaged in commerce, if in the judgment of the inspectors, after due examination in writing, he be found duly qualified to take charge of the machinery of vessels so propelled.

SEC. 6. (New paragraph at end of section.)

Any person owning a pleasure yacht of 15 tons and under, navigated for pleasure only, holding a master or pilot license, is fully authorized to navigate his own pleasure yacht, cruising in the inland waters of the United States, without being required to report to the various boards of inspectors whose districts they may be passing through.

SEC. 10. (Last paragraph.)

[No original first-class pilot license on the Northwestern Lakes shall be issued hereafter to any person who has not been licensed and served at least one full season of eight months as second-class pilot on steamers, such service as second-class pilot to have been within two years preceding the application for such license.]

On the Northwestern Lakes and connecting waters, any person holding a second-class pilot license may come before any local board for examination for first-class pilot license, after having served one year as wheelsman, watchman, or as assistant to a first-class pilot on freight, towing, or passenger steamers, such service to have been within two years preceding the application for first-class pilot license.

SEC. 14. (New paragraph at end of section.)

First-class pilots, who have served as such on the waters of the Atlantic or Pacific coast inland waters, or on the Great Lakes, on steam vessels of 1,000 tons and up, may have their licenses endorsed for masters of steam vessels of 500 tons and under, on the same waters, without examination, when the inspectors are satisfied of their qualifications therefor.

SEC. 19. (Last paragraph repealed.)

[All examinations for licenses to be made by the board of local inspectors.]

SEC. 8. (Last paragraph.)

And it shall also be the duty of the inspectors to compel all floating structures, such as steam elevators (propelled by their own motive power), to have their whistles located on the front side of such superstructures having an elevation higher than the pilot house of the vessels. [This amendment to take effect July 1, 1897.]

SEC. 8. (New paragraph at end of section.)

All steam vessels shall be placed not less than six feet above the top of the pilot house of steam vessels where the height of the smoke stack will admit the attachment of same below its top, when not hinged for passing under bridges, and it shall be the duty of inspectors to enforce this rule at the annual inspection.

It shall be the duty of all inspectors before granting an original license or renewing an existing one to a master or pilot of steam vessels for any waters, to satisfy themselves by an examination in writing, that such officers are thoroughly familiar with the pilot rules upon the waters for which they are licensed.

Each master and pilot of steam vessels, wherever employed, shall, when receiving his license (either original or renewal), be furnished with a pamphlet copy of the Rules and Regulations governing pilots and of the statutes upon

an average, and all the rest of the eleven ports sending grain to Buffalo show a shortage—Manitowoc, Wis., leading with forty-three pounds and Milwaukee being next with twenty-seven pounds. Chicago is short thirteen pounds. The heaviest shortages from any individual elevator on full cargoes were from the Alton in Chicago, eighty-four pounds.

THE MUNICIPALITY MET THE BILLS.

On May 25, 1895, Indiana street bridge at Chicago was swung against the steamer Thomas Davidson, inflicting considerable damage. One smokestack was carried away, iron boiler house wrecked, steam pipes bent and broken, and the cabin damaged. The city refused to pay the repair bills, and litigation followed. A decision has been reached this week by the courts compelling the municipality to settle. The amount sued for was between \$3,000 and \$4,000, with interest.

TREASURY DECISIONS RELATING TO VESSELS.

TRANSIT BAGGAGE.

Baggage passing from ports in the Dominion of Canada to other Dominion ports through United States territory may be sealed by United States consular officers in conjunction with Canadian customs official.

TREASURY DEPARTMENT, Feb. 18, 1898.

SIR: Referring to your letter of December 10 last, inclosing copy of a dispatch from the consul at Port Stanley and

vessels previously owned by an alien or aliens, specially naturalized by act of Congress, or a vessel of such ownership that has been wrecked in American waters and naturalized under section 4136, Revised Statutes.

In the case of the steamer J. G. Nichols, it appears from Mr. Hinckley's own statement in his letter to you dated January 12, 1898, that, though said steamer has held a Canadian register, she has always been the property of a citizen of the United States, and therefore entitled to be documented at any time upon her return to the United States.

Mr. Hinckley's statement in support of above conclusion, just referred to, is quoted for your information as follows:

Years ago I purchased the steamer J. G. Nichols, a vessel built in and documented in the United States. Later I sold said steamer to my brother, Coleman Hinckley, a citizen of the United States residing in Canada. [Underscoring not in original.]

In conclusion you may inform Mr. Hinckley that the boiler in the J. G. Nichols can not be inspected unless found in accordance with the United States laws, namely, that the plates of which it is composed are stamped with the manufacturer's name on each plate, "the place where manufactured, and the number of pounds tensile strain it will bear to the sectional square inch" (sec. 4431, Rev. Stat.), and that such plates have been inspected under the rules of the Board



ICE CRUSHER AND RAILROAD CAR FERRY "ST. IGNACE."

One of the fleet of boats that keeps open communication across the Straits of Mackinac during the winter months.

which such rules are founded applicable to the waters on which their licenses are intended to be used as stated in the body thereof.

SHORTAGES AND OVERRUNS IN GRAIN CARGOES.

The annual report of the official grain weighmaster of the Buffalo Merchants' Exchange, Junius S. Smith, has been issued in pamphlet form. It gives the work of all elevators in Buffalo and others on the lakes with which the fleet has traded. The weighmaster has had charge of the weighing of one-half of the 200,000,000 bushels of grain received in Buffalo during the past season, and reports an average shortage of only twelve wheat pounds per 1000 bushels. In 1872, when the present weighing system was established, the shortages were so much greater than they are now that reckoned on a basis of that amount of grain received in Buffalo during the season of 1897 the decrease would amount to 168,864 bushels. There is scarcely any shortage on wheat, only two pounds to the 1000 bushels. This is largely on account of the overruns from Fort William, which amount twenty-five pounds to the 1000. The appliances at that port are crude and so acknowledged, and if there is a bad shortage reported against the port something is done about it instead of employing the time-honored method of calling the receiving elevators to account. Green Bay also shows

St. Thomas in regard to sealing certain transit baggage passing from ports in the Dominion of Canada to other Dominion ports through United States territory, I have the honor to state that the suggestion of the consul meets with the approval of this department, and you are respectfully requested to authorize him, in conjunction with the Canadian customs official, to seal and manifest any baggage which is duly checked through from his district to points in the Dominion territory in the Northwest and British Columbia, passing in transit through United States territory.

Respectfully yours,

L. J. GAGE, Sec'y.

The Secretary of State.

INSPECTION OF BOILERS.

Foreign-built boilers placed in American steam vessels, to be entitled to inspection, must be constructed in accordance with United States laws.

TREASURY DEPARTMENT, Feb. 19, 1898.

SIR: The department having carefully considered the application of Mr. A. R. Hinckley, of Cape Vincent, N. Y., for the inspection of the foreign-built boiler of his steamer J. G. Nichols under section 14 of the act of Congress, approved March 3, 1897, is obliged to decline authorizing the inspection of the boiler of the J. G. Nichols under said act, for the reason that the act applies only to the boilers of "foreign vessels admitted to American registry," namely,

of Supervising Inspectors, as required by section 4430, Revised Statutes. Respectfully yours,

O. L. SPAULDING, Assist. Sec'y.

HON. C. A. CHICKERING,
House of Representatives, Washington, D. C.

IN the mercantile marine, it is beyond question, says The Engineer, that pressures are rising. The limit has been for the time attained by the Inchmona, whose five cylinder engines work with 250 pounds of steam. A good deal of criticism has been expended on Mr. Mudd's engines, but they have accomplished all that he promised; at all events, that is the opinion of the owners, who have recently handed over to the directors of the Central Engine Works, West Hartlepool, the large balance which was held over conditionally until a year's working had proved that the engine would satisfy the guarantee. The owners have paid on the basis of a consumption of only 1.15 pound of coal per horse-power per hour—an economy which has not, we believe, ever before been attained at sea over twelve months.

A JETTY five miles long has just been completed at the mouth of the Columbia river. It was constructed by the Government, and is intended to confine the current of the river. A channel 2000 feet wide has been thus obtained, with a low water depth of twenty-one feet. The improvement was begun in 1880, and has cost \$2,025,000.

THE MARINE RECORD.



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CLEVELAND, O., MARCH, 3, 1898.

It is now stated positively that no river and harbor bill will be reported at this session of Congress. The house leaders are opposed to a river and harbor bill, and the friends of the bill on the committee believe it would be better to wait until the short session, after the congressional elections next fall, when a complete and comprehensive bill can be reported, rather than attempt to pass an inadequate bill at this session.

THE bids for dredging Portage ship canal at Keweenaw Point were opened at Maj. Sears' office, Duluth, this week. The amount proposed to be expended on the work is \$80,000 and the probably successful bidder, the Racine Dredge Co., of Racine, Wis., bid just \$4,100 under that amount. The dredging is divided in three sections. The first is of 50,000 cubic yards, and the Racine company bid 10 cents a yard on this. The second section is of 100,000 cubic yards, and 14.9 was bid on this. The bid on the third section, 800,000 yards, was 7 cents. Nine dollars per hour was, according to the bid, to be charged for the use of the dredging plant.

THE estimates for the conservancy and improvement of rivers and harbors in the Lake Superior district as computed by Major Clinton B. Sears, Corps of Engineers, U. S. A., in charge of that division, evidently met the favorable consideration and action of the committee on rivers and harbors at Washington, as \$770,000 has been appropriated in the sundry civil bill, an amount quite up to the expectations of Major Sears. The original estimate was for \$1,102,000, but later on when asked by the department to reduce all possible outlays, said he could get along with less. Major Sears said this amount is about all that can be used advantageously in one season in the district. The amount expended at the head of Lake Superior will be about \$400,000, or possibly a few thousand more than that.

THE unseaworthy vessels pressed into service for the Alaska trade are beginning to contribute their quota to the list of casualties. The transportation companies engaged in the business are extremely independent. When the unsafe character of their boats is demonstrated the companies have nothing to say. If fortune seekers, eager to reach the gold fields of the Klondike are willing to risk their lives in these condemned hulls, the companies are ready to accommodate them at a good round sum per head for transportation, but do not engage to insure their safety or refund their money if passengers conclude not to take chances after discovering the hazardous nature of the trip. It would seem to be about time for the government to take some action in this matter, on the ground of humanity. The Spokane Review says: "More than ever the Klondike rush is taking on the elements of a stupendous tragedy, with somewhat of the dangers and horrors of war and famine. From the moment the eager gold-seeker sails from one of the coast cities, his life and possessions are put in great jeopardy."

UNITED STATES NAVAL RESERVES.

Representative Bull, of Rhode Island, has introduced in the House a bill to organize the United States Naval Reserves, which possesses much merit. It has been several times endorsed by the National Board of Trade and is actively advocated by the New York Board of Trade and Transportation. The Naval Reserves now in existence are organized by States on the same plan as the National Guard. Though they have reached an excellent condition of efficiency, there are only about 4,500 men enrolled in the Reserves in the whole country. The organization of the United States Reserves as an auxiliary to the Navy would afford a needed addition to our naval forces in time of war. The bill introduced in the House provides for the enrollment by the President as Naval Reserves of ex-officers and formerly enlisted in the Navy and Marine Corps; of the same from the different State Naval Militia battalions, and of the United States Revenue Marine, the United States Life-Saving Service, the Light-House Service and the Coast Survey Service, together with masters, mates, engineers and pilots and all officers and men from the vessels of the merchant marine, and the owners, officers and crews of yachts enrolled in an incorporated yacht club, with every other person whose chief occupation is on the high seas or in the navigable waters of the United States.

These men are to be exempt from militia service on land and shall not be called into service in time of peace, but, if they so elect, shall be drilled and instructed. A Naval Reserve pennant is to be provided for vessels commanded by a Naval Reserve officer and carrying at least five other enrolled officers or men. A board of commissioners is to be appointed by the President to take charge of organization, classification and enrollment. The bill carries an appropriation of but \$50,000 and seems to afford an inexpensive plan for creating a valuable auxiliary naval force.

THE Navy Department has just completed the allotment among the states of the appropriation of \$50,000 made for assisting the naval militia organizations. The allotments are smaller this year than heretofore, owing to the fact that while the appropriation remains stationary the organizations are increasing in number, hence the efforts now being made to secure from Congress an increase of the appropriation to \$60,000. The allotments are as follows: For books, etc., \$2,000; California, \$4,163; Connecticut, \$1,781; Florida, \$2,008; Georgia, \$2,429; Illinois, \$5,647; Louisiana, \$2,829; Maryland, \$2,591; Massachusetts, \$4,762; Michigan, \$2,084; New Jersey, \$3,930; New York, \$5,096; North Carolina, \$2,483; Ohio, \$2,332; Pennsylvania, \$2,332; Rhode Island, \$1,403; South Carolina, \$1,641; Virginia, \$475. Total, \$50,000.

CONTINUING IMPROVEMENTS.

The appropriations for continuing river and harbor contracts embraced in the civil service bill are as follows: Chicago river, \$400,000. Keweenaw Bay to Lake Superior, \$450,000. For surveys, examinations and investigation for a canal between the lakes and ocean, according to the recommendations of the deep waterways commission, \$225,000; Duluth and Superior harbors, \$770,000, estimate, \$1,102,776; Buffalo harbor, \$489,000, estimate, \$618,750. To this must now be added the amount later appropriated for the Cleveland district.

LAKE AND RAIL LINES.

The outlook for the lake and rail lines is not very promising. At a recent meeting of the Joint Traffic Association the westbound rates of last season (75 cents all rail, 57 cents lake and rail and 35 cents canal and rail) were agreed to, but the 5-cent differential on fifth and six classes and flour and grain products were cut down to 4 cents on the classes and 3 cents on the special classes of flour and grain products. The lake and rail rate on flour from Minnesota to New York ought to be 24 cents, and the roads are now making a 21-cent rate for export flour. If the lakes are obliged to accept an 18-cent through rate it will come hard. It is believed that cuts are in force even below the 21-cent rate, as millers are hardly able to sell their flour in the east. A meeting with the western roads is to be held in Chicago on March 2 and 3, and then the lake interests will insist that the cutting shall be confined to the roads west of Chicago if it must go on. It has also been arranged to meet the trunk line managers at the same time and so avoid the March rate meeting in New York entirely.

There are two additional elements in the lake situation—the Owen line from Chicago to Fairport and the Canada-Atlantic line to Parry Sound. This latter line will be managed from Ottawa, and three steamers will be run to

Chicago and two to Duluth. The rail haul is to be from Parry Sound to Coteau on the St. Lawrence, forty miles below Montreal, where an elevator is to be built, and the route to Montreal is to be finished by barges. This arrangement is said to avoid an exorbitant charge that would have to be stood in Montreal if the rail route should terminate there. It seems hardly possible that this route can have any advantage over the Welland canal, but the line is likely to prove a disturbing element for all that, or at least one that must be counted with in making through rates to the seaboard.

ANNUAL RECORD OUTPUT OF LAKE SHIPYARDS

In contradicting a statement recently made by a contemporary wherein it was held that no lake shipyard had ever launched 20,000 tons of floating property in one year, we pointed out that the Globe Iron Works Co., Cleveland, held an annual record of the launching of ten large modern steel steamers, their aggregate tonnage far exceeding the limit erroneously placed on the capabilities of lake shipyards.

In due course credit was given the "Globe" and we pointed out that the F. W. Wheeler & Co. had also a thirty-thousand ton record to their shipbuilding account, but we have failed so far to see any mention being made of same. The Chicago Ship Building Co. launched eight vessels in 1896, six barges and two steamers, having a total gross tonnage of 26,653 as follows: Barge, Manda, 3,256; steamer, Geo. N. Orr, 2,873; barge, Martha, 3,256; barge, Magna, 3,259; barge, Geo. E. Hartnell, 3,266; barge, Geo. H. Corliss, 3,259; steamer, Maricopa, 4,224; barge, Alfred Krupp, 3,260.

The largest year's output in the construction of the steel vessels at the yards of F. W. Wheeler & Co., West Bay City, Mich., was also in 1896 and the record shows six steamers and two barges.

VESSELS BUILT IN 1896 BY F. W. WHEELER & CO.

| | Gross Tonnage. | Net Tonnage. | Horse Power. |
|-----------------------------|----------------|--------------|--------------|
| L. C. Waldo..... | 4,244 | 3,290 | 2,000 |
| City of Bangor..... | 3,690 | 2,986 | 1,800 |
| E. W. Oglebay..... | 3,666 | 3,019 | 2,000 |
| Lagonda..... | 3,647 | 3,017 | 2,000 |
| George Stephenson..... | 4,583 | 3,502 | 2,500 |
| James Nasmyth..... | 3,418 | 3,158 | ..... |
| Sir Isaac Lothian Bell..... | 3,418 | 3,158 | ..... |
| Pere Marquette..... | 4,690.91 | 4,133.83 | 2,000 |
| Total..... | 31,356.91 | 26,263.83 | 12,300 |

SINGLE VS. MULTIPLE CYLINDER ENGINES.

Not every engineer is clear in his mind as to how an engine with three or four or even five cylinders can be more economical or have a greater efficiency than an engine doing the same number of expansions in a single cylinder, says the Tradesman. Briefly stated, it is because the extremes of temperature in each cylinder are kept more close together, that the multiple cylinder engine owes what merit it possesses.

Steam at 200 pound pressure has a temperature of about 387 degrees, and at atmospheric pressure we all know that its temperature is 212 degrees. This gives a difference of temperature of 175 degrees, which the steam has to pass through during every stroke of the piston. If a condenser is used, and the temperature run down to 160 degrees, the difference will be increased to 227 degrees.

The above is a big variation in temperature for the walls of a cylinder to pass through twice during each stroke of an engine, and from the nature of the material of which the cylinder is such a thing is impossible, therefore the steam is exposed to a cooling influence and condenses, thus reducing its volume and consequently its pressure before the steam has a chance to act fully on the piston. This is the real reason why there is a loss—the cold iron cools the steam and reduces the pressure of the steam.

When the expansion is cut up into four parts there is only about one-fourth as much difference in temperature between the incoming and outgoing steam, or about 57 degrees in each cylinder. This difference is easier handled, as it does not cool the steam as much, and if a little reheating is done to the steam between the several cylinders, nearly all the loss from cylinder condensation can be avoided. There is something to be deducted from the savings to be made in this manner, and that is the loss by friction of the many extra cylinders and pistons, valves and connections, and the loss of heat in the reheating of the steam mentioned above. It depends upon surrounding conditions how far the number of cylinders and steam jacketing can be made to pay, hence the difference of opinion among engineers upon this subject—their experiments have not been conducted alike.—Manufacturers' Record.

LAUNCH OF THE CITY OF ERIE.

The large steel side-wheel passenger and cargo steamer City of Erie, built by the Detroit Dry Dock Co., to the order of the Cleveland & Buffalo Transit Co., was successfully launched on Saturday afternoon last, from the builders' yards at Wyandotte.

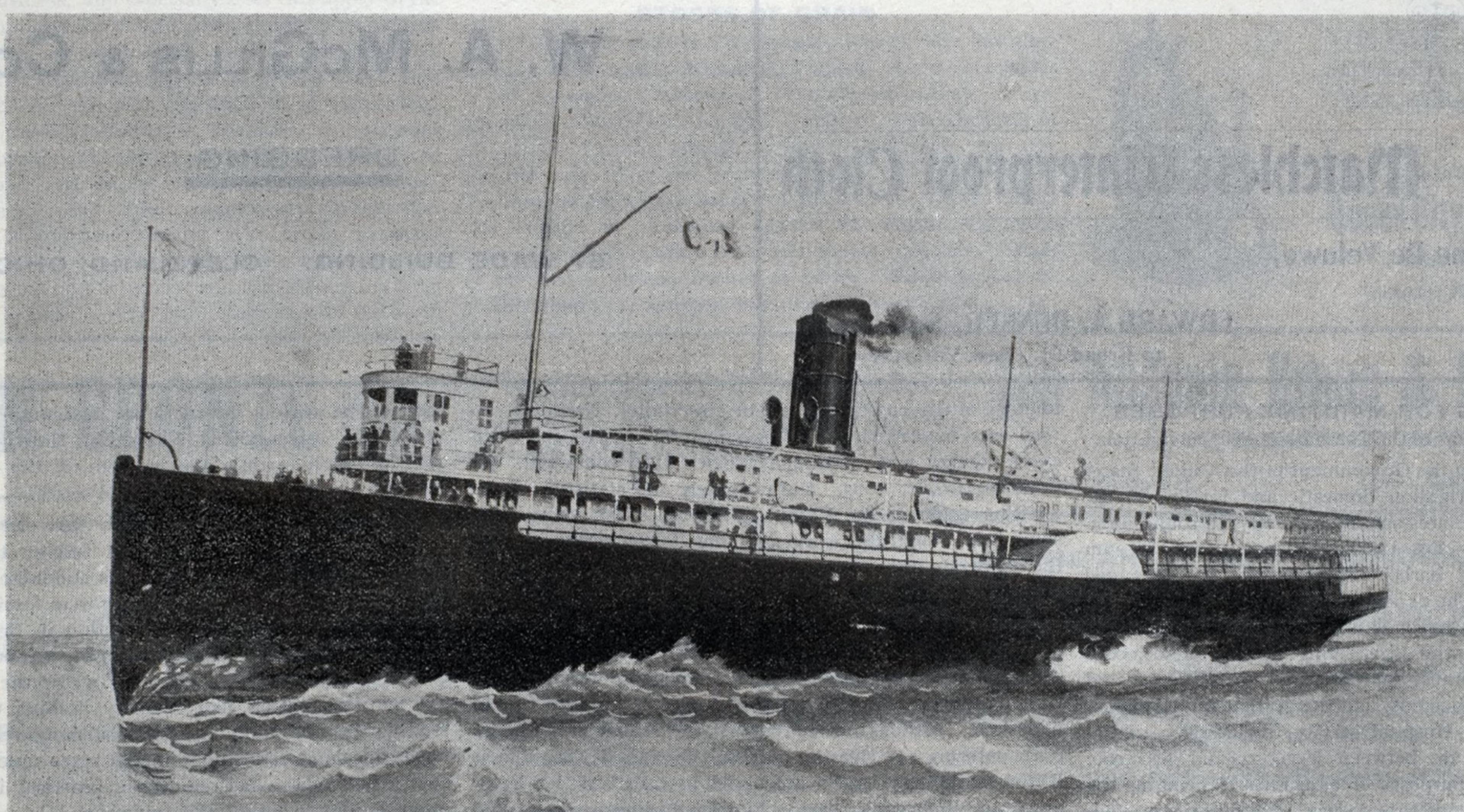
Mr. George W. Gardner, vice-president of the C. & B. line, escorted to the yard Miss Carrie A. Conwell, of Wyandotte, who had been selected to officiate in the christening ceremony in breaking a bottle of champagne on the vessel's bow. The bottle was decorated with a black and orange ribbon, colors of Princeton College, in honor of Gilbert McMillan, secretary of the dry dock company, whose alma mater Princeton was.

The general dimensions of the City of Erie are as follows: 324 feet in length, 78 feet beam over the guards, 44 feet hull beam, and 18 feet molded depth. W. & A. Fletcher Co., Hoboken, N. J., will equip her with one of their well-known walking beam engines, otherwise, almost every detail will be furnished by her builders, the Detroit Dry Dock Co.

The City of Buffalo, a sister ship to the Erie, has made a speed record of 21 miles an hour, and it is expected that the City of Erie will be able to slightly discount the best speed made by the last new boat. A large force of men will be kept at work on the new steamer until she is completed, when she will be placed on the route between Cleveland and Buffalo, calling at Erie, Pa., bound east or west.



CAPT. JOHN EDWARDS, "CITY OF ERIE."



TYPE OF THE CLEVELAND & BUFFALO LINE OF PASSENGER AND CARGO STEAMERS.

MR. CARNEGIE ON OUR SHIP PROBLEM.

(ANDREW CARNEGIE IN THE IRON TRADE REVIEW.)

May I call attention, through your columns, to the field which is open for a first-class ship building yard upon the Hudson, East River, or lower bay, near New York?

The prices paid for steel by British and German shipyards are so much higher than shipbuilders in New York would be required to pay that the difference would make, in itself, an excellent profit. Plates are worth about \$22 or \$23 per ton in New York. The quoted price at Glasgow is nearly \$30. Other prices are in proportion and all the woodwork of ships is also much cheaper with us. If a yard were built to-day with the newest appliances, the total cost of labor, even at much higher wages, would be less than in any shipyard I know of, either in Britain or Germany.

I name near New York as the best for several reasons: 1. A shipyard there would get repair work, which is always profitable. 2. A dry dock could be part of the equipment, which would also be highly profitable. 3. Two years hence the cost of transportation upon steel delivery at the shipyard at New York from Pittsburgh, the cheapest market for steel in the world, will not exceed \$1 per ton, via Conneaut and the deepened Erie canal. Indeed it will be less, since it will cost nothing to send steel to Conneaut in cars which otherwise must return to the lake empty for ore. The present seaboard shipyards are so usefully occupied with domestic business that they cannot give foreign business proper attention. The New York yard should be constructed on a

larger scale and with special reference to the foreign demand.

I am satisfied that the United States can readily regain the supremacy in shipbuilding it had when wooden ships were in vogue. It only needs an enterprising western shipbuilding concern to establish a yard near New York and manage it with the skill and energy which have characterized those on the lakes. This is the only prominent department of manufacturing in which our country is behind, and it is one in which it easily can obtain front rank. It would justify steel manufacturers to guarantee to such a shipbuilding concern a continuance of the present extremely low rates upon steel for a term of years, and also that steel of all kinds and armor and guns should always be furnished at the lowest price paid by European shipbuilders. But there is nothing to fear from the prices of steel, for these henceforth are to rule lower in our country than in any country of Europe. It will not be long before a large portion of its steel supply must be drawn by Europe from the United States.

If I were a younger man, or rather, if I did not belong to a concern so enterprising as to employ all my capital and give me a pleasurable occupation watching over its progress and success, I should be greatly inclined to enter upon the building of ships somewhere near New York harbor. There would be no warships or Atlantic liners open for bids in any part of the world which the New York yard would not have something to say about. Every needed element is present for regaining our supremacy as the principal shipbuilding country. Surely some one of the successful lake concerns will consider the advisability of establishing a branch yard near New York—a branch which I predict would very soon grow to many times the capacity of the original works, and give a much higher return upon capital, besides rendering its originator famous.

J. G. RANDALL,
Chief Engineer, "City of Erie."A. D. McLACHLAN,
Purser, "City of Erie."W. H. THORPE,
Chief Steward, "City of Erie."

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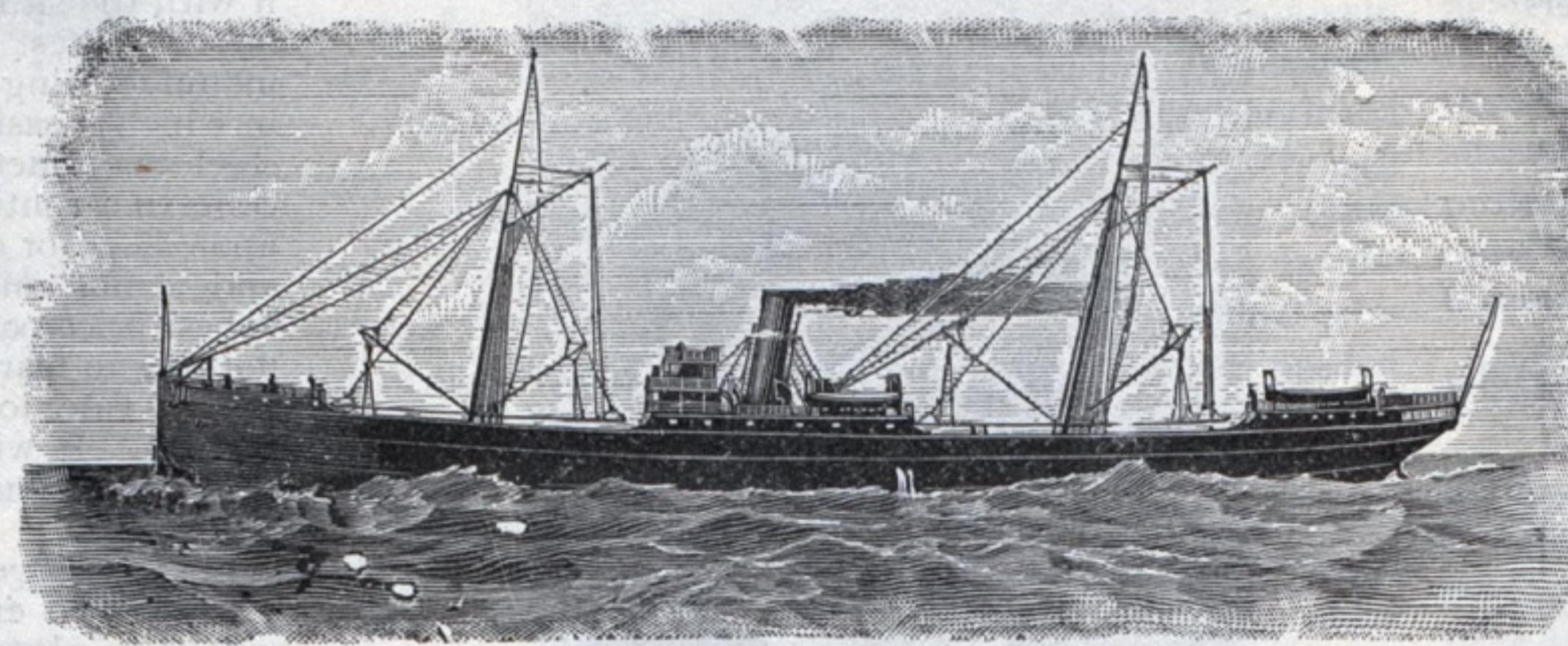
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EXPENDITURES FOR MARITIME PURPOSES.
(From the annual report of the Commissioner of Navigation.)

The expenditures by the Government of the United States for the benefit of navigation, domestic and foreign, in the waters of the United States amount annually, in round numbers, to \$20,000,000. For the last eleven years the sum devoted to river and harbor improvements has averaged \$13,500,000 a year. The expenditures for the Light-House Establishment and improvements now reach \$3,500,000 annually. To maintain the Life-Saving Service \$1,500,000 a year are required. Annual appropriations for the Coast and Geodetic Survey are \$400,000, and the present annual expenditures of the Marine Hospital service, including a partial national quarantine, are between \$600,000 and \$700,000. Certain other minor purposes of expenditure, bringing the total quite up to or beyond \$21,000,000, might be enumerated, but as these others are almost wholly for the benefit of American vessels, they are not included. With this total of \$20,000,000 spent annually should be considered the interest on the large investments we have already made. The value of the plant of the Light House Service alone is estimated at about \$125,000,000. A few States make appropriations for canal maintenance and improvement; some municipalities maintain at public charge dock systems, and sporadic cases are recorded where legislatures and city governments have voted money for harbor improvements in addition to appropriations by Congress. Navigation, however, broadly speaking, has become an object of Federal expenditure.

When our annual expenditures for all purposes of about \$500,000,000, the great extent of our seaboard and of our inland navigable waters, and the needs of an increasing commerce are considered, this aggregate of \$20,000,000 expended for navigation is not large in proportion to the expenditures of other nations for similar purposes. In the United Kingdom, for example, the expenditures by harbor authorities, or from light dues, covering services substantially similar to those enumerated and some others, amount annually, in round numbers, to \$25,000,000. The tonnage of vessels annually entering and clearing the ports of the United Kingdom in foreign trade is about double the tonnage of vessels annually entering and clearing the ports of the United States in foreign trade, for 1896 the aggregate being: United States, 42,403,769 tons; United Kingdom, 80,180,754 tons. The aggregate

tonnage of the coasting trade of the United Kingdom for 1896 was 104,226,087 tons, and the total entries and clearances, foreign and coasting trade for 1896 combined, was thus 184,406,841 tons. Unfortunately the statistics of the coasting trade of the United States are not collected and compiled, though this work will hereafter be performed, but the aggregate water commerce of this country is undoubtedly greater than the aggregate for the United Kingdom just given.

The method of raising money to meet expenditures for the necessities and improvements of navigable waters in the United States is radically different from that in the United Kingdom. Although three-fourths of the tonnage in foreign trade entering and clearing ports in the United Kingdom is British shipping, vessels are taxed to maintain the light-house and life-saving services and for the improvement and maintenance of harbors. Although three-fourths of the tonnage in foreign trade entering and clearing ports in the United States is foreign, vessels are subject to no Federal taxes for the Light-House and Life-Saving services or for the improvement and maintenance of harbors. Of the \$20,000,000 annually expended by the Government of the United States for the benefit of navigation, foreign shipping contributes only a share of the tonnage taxes levied for the maintenance of the Marine Hospital Service. This contribution for the fiscal year ending June 30, 1896, amounted to only \$475,000, in round numbers, and for the last fiscal year to \$660,000.

By section 12 of the act of June 19, 1886, Congress directed the President of the United States to invite foreign countries to co-operate with the United States to abolish all light-house dues, tonnage taxes, or other equivalent tax or taxes on, and also all other fees for official services to, the vessels of the respective nations employed in trading between such foreign countries and the United States. While in form proposing the reciprocal abolition of charges on shipping engaged only between the United States and foreign nations, section 12, if generally accepted by maritime nations, would by this time have led to the virtual abolition of the charges referred to on all international shipping. The underlying idea was thus a philanthropic regard for the navigation of all nations, quite remarkable in view of the fact that at the time, or shortly after—in 1887-88—American vessels constituted only 3½ per

cent. of the world's international navigation (A. N. Kiaer, Statistique Internationale, Navigation Maritime, Christiania, 1892, p. xxxvii), while 50½ per cent. of the navigation was British.

A proposition from Great Britain that all nations should abolish all charges on shipping in foreign trade would be readily intelligible. British vessels undoubtedly pay out in foreign ports a sum annually larger than foreign vessels contribute toward the safety of navigation in British ports and along British coasts. Germany might, without considerable loss, make the same proposition. In 1886 the United States, as a maritime nation, had virtually nothing to gain by extending the invitation, and by abolishing years before light house dues and reducing tonnage taxes much below those charged elsewhere had removed a practical inducement for other nations to accept the invitation. In so far as these charges may be regarded as payable by the ship rather than as a factor entering into the ultimate cost of cargo transported by it, the national advantage accruing from the abolition of such charges must be reckoned by the extent to which national vessels conduct the trade relieved from charges.

The tonnage of the combined entries and clearances at ports of the United States of vessels engaged in foreign trade amounted for the fiscal year ending June 30, 1896, to 42,403,769 net tons, of which 10,525,919 tons were American and 31,877,850 tons were foreign.

So far as our foreign trade is concerned, foreign vessels make three times as much use of the results of our expenditures for improvements in navigation on the seacoast as do American vessels. As a rule steamships engaged in the trans-Atlantic trade are those which call for the greatest depths of water in our harbors, and the ratio of foreign vessels engaged in this trade compared with American vessels is many times greater than 3 to 1. The voyages made to and from Europe by American steamships during the fiscal year 1896 numbered only 164, while the voyages made to and from Europe by foreign steamships numbered 7,116. The arrivals and departures of coastwise steamships, exclusively American, do much to restore the equilibrium between domestic and foreign vessels, but it is still true that if the United States pursued the same policy as Great Britain very much of the cost of constructing and maintaining light-houses, improving channels and harbors, and other benefits

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THE MARINE RECORD.

to navigation would be charged against the foreign shipping making use of these benefits, instead of being appropriated from the Treasury. In the matter of light-house dues the United States is much more liberal to British shipping than is the British Government itself; in the matter of tonnage taxes we are much more liberal toward German steamships than is the city of Hamburg, for while a steamship has to pay tonnage tax at each entry into Hamburg, in American harbors after five payments such vessels are exempt for the remainder of the year.

The tonnage of the combined entries and clearances (with cargo) of France for 1896 amounted to 24,350,000 net tons, of which 15,900,000 tons were foreign shipping. The navigation dues imposed by France for the year amounted to 13,656,655 francs, of which foreign shipping paid approximately two-thirds. The bounties paid by France to French shipping amounted to 13,680,731 francs, by coincidence a sum almost exactly equal to the revenue derived from the various navigation dues, paid chiefly by foreign vessels.

EASTERN FREIGHT REPORT

Messrs. Funch, Edye & Co. report Eastern freights as follows: Our freight market for steamers presents a rather ragged appearance, being regulated this time almost entirely by requirements of tonnage for sales made some time previous, under which predicament vessels suitable as to size and position have secured figures far in advance of limits applicable to new business, and especially does this apply to the fixture of larger boats for picked ports, the freights secured by several of which are considerably above the level of berth freights current for neighboring ports, as well as above what could be secured for the port chartered to for parcel lots. The supply of vessels offering is, however, by no means ample, and it appears quite within the probabilities that the enquiry for room, very urgent for February shipment, may lap into March as well. Other commodities, on the other hand, outside of grain and general cargo, are by no means urgent factors on our market, there being no enquiry for cotton, for case oil or for timber, and the last reports from the Gulf ports advise a very heavy shrinkage of the berth

freights obtainable for grain—a very large item as basis of charters thence now for some years.

The condition of our market for sail tonnage shows no change whatever, and we have nothing new or of interest to report concerning this.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

| CITIES WHERE STORED. | WHEAT. Bushels. | CORN. Bushels. | OATS. Bushels. | RYE. Bushels. | BARLEY. Bushels. |
|-----------------------------|--------------------|-------------------|-------------------|------------------|---------------------|
| Buffalo | 975,000 | 1,329,000 | 95,000 | 50,000 | 428,000 |
| Chicago | 8,877,000 | 16,284,000 | 1,373,000 | 832,000 | 587,000 |
| Detroit | 97,000 | 17,000 | 6,000 | 20,000 | 3,000 |
| Duluth and Superior | 2,593,000 | 2,457,000 | 2,471,000 | 1,240,000 | 565,000 |
| Milwaukee | 107,000 | 123,000 | 85,000 | 47,000 | 26,000 |
| Montreal | 112,000 | 56,000 | 752,000 | 33,000 | 51,000 |
| Oswego | 198,000 | 605,000 | 299,000 | 20,000 | ..... |
| Toledo | 32,000 | ..... | 17,000 | ..... | 9,000 |
| Toronto | ..... | ..... | 46,000 | ..... | ..... |
| On Canal | ..... | ..... | 67,000 | 25,000 | ..... |
| On Mississippi | 267,000 | 347,000 | ..... | ..... | ..... |
| Grand Total | 34,088,000 | 40,870,000 | 13,473,000 | 3,660,000 | 2,165,000 |
| Corresponding Date, 1897 | 43,797,000 | 26,408,000 | 13,897,000 | 3,582,000 | 3,315,000 |
| Decrease | 1,345,000 | ..... | ..... | ..... | 149,000 |

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

STOCKS OF GRAIN.

The stocks of grain in Chicago elevators on last Saturday evening were 10,398,000 bushels of wheat, 23,072,000 bushels of corn, 1,605,000 bushels of oats, 963,000 bushels of rye, and 680,000 bushels of barley. Total, 36,718,000 bushels of all kinds of grain, against 30,330,000 bushels a year ago. For the same date the Secretary of the Chicago Board of Trade states the visible supply of grain in the United States and Canada as 34,088,000 bushels of wheat, 40,870,000 bushels of corn, 13,473,000 bushels of oats, 3,660,000 bushels of rye, and 2,165,000 bushels of barley. These figures are smaller than the corresponding ones of a week ago by 1,345,-

000 bushels in wheat and larger by 963,000 bushels in corn and 127,000 bushels in oats. The visible supply of wheat for the corresponding week of a year ago decreased 1,418,000 bushels.

THE WEST SUPERIOR SHIPYARD.

The two large cargo vessels now building at the yards of the American Steel Barge Co. West Superior, Wis., will be completed about May 1. The steamer is to be named the Alex McDougall in honor of the general manager and is the largest vessel ever built at the yards of the company. The 5,000 ton schooner building to the order of the Minnesota Steamship Co. will be ready for loading at the early opening of navigation.

PROPOSALS.

PROPOSALS FOR CONSTRUCTING LOCK AND APPROACHES.—U. S. Engineer Office, Custom House, New Orleans, La., Feb. 16, 1898. Sealed proposals for constructing lock and approaches for improving Bayou Plaquemine, La., will be received here until 12 o'clock noon, April 15, 1898, and then publicly opened. Information furnished on application. Jas. B. Quinn, Major, Eng'r.

7-10.

Queen City Hydraulic Steerer.



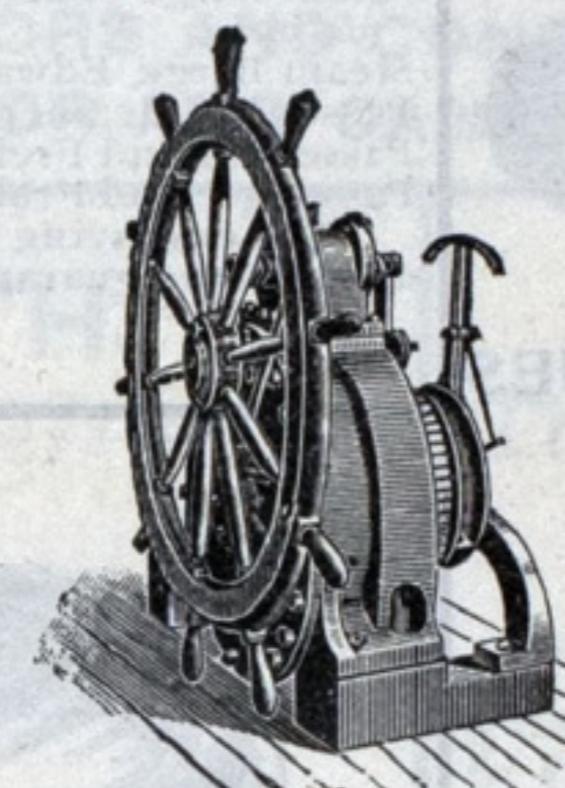
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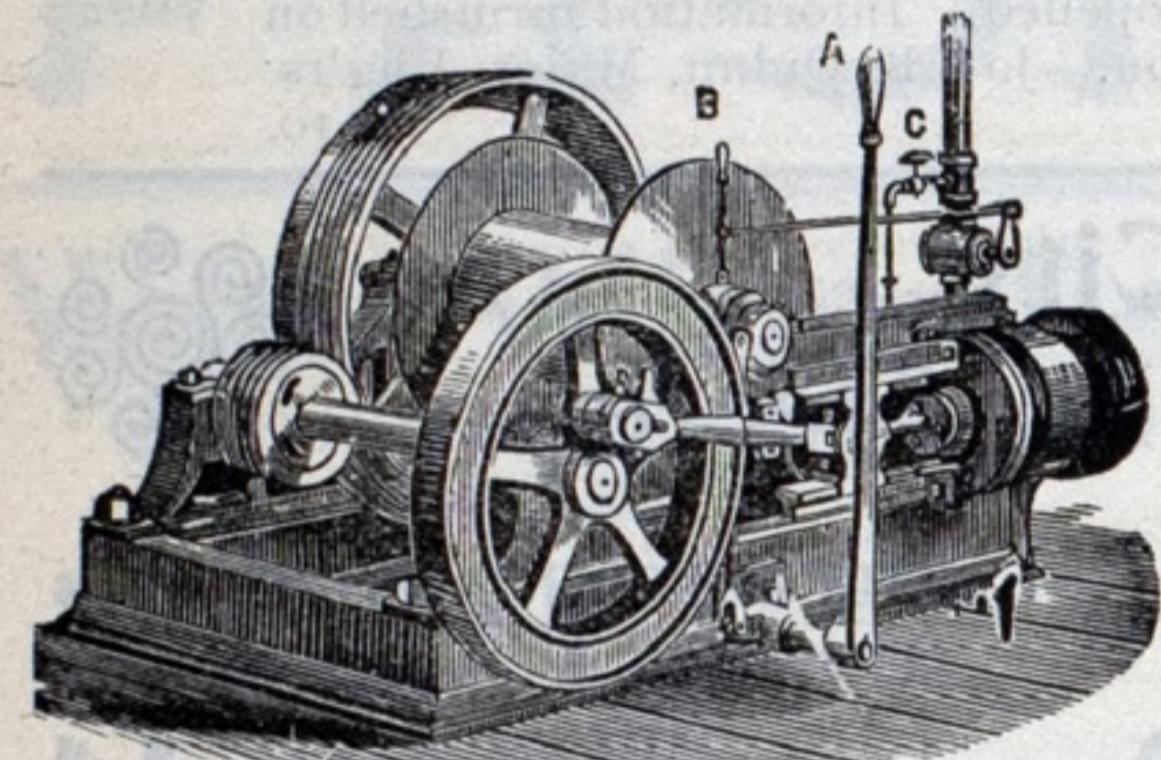
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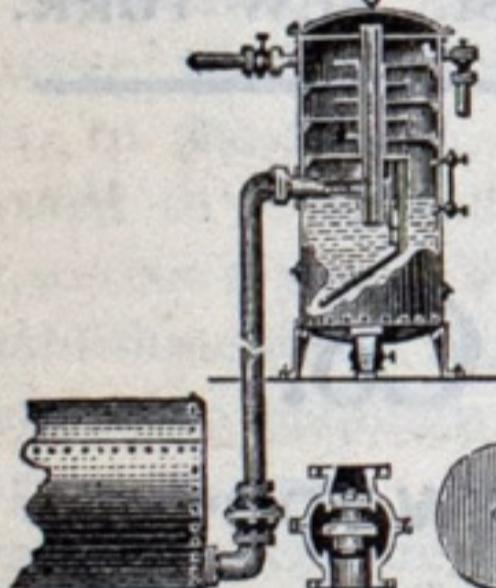
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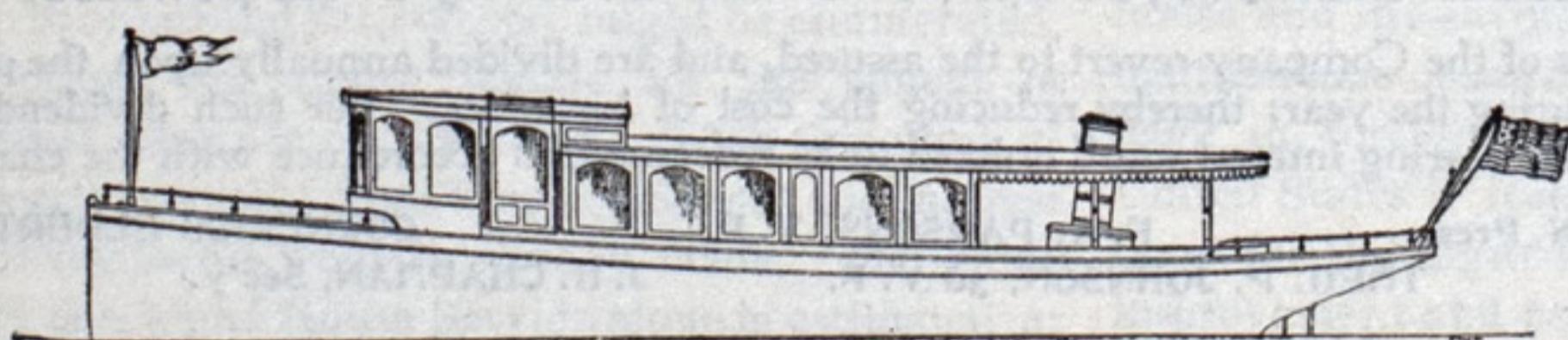
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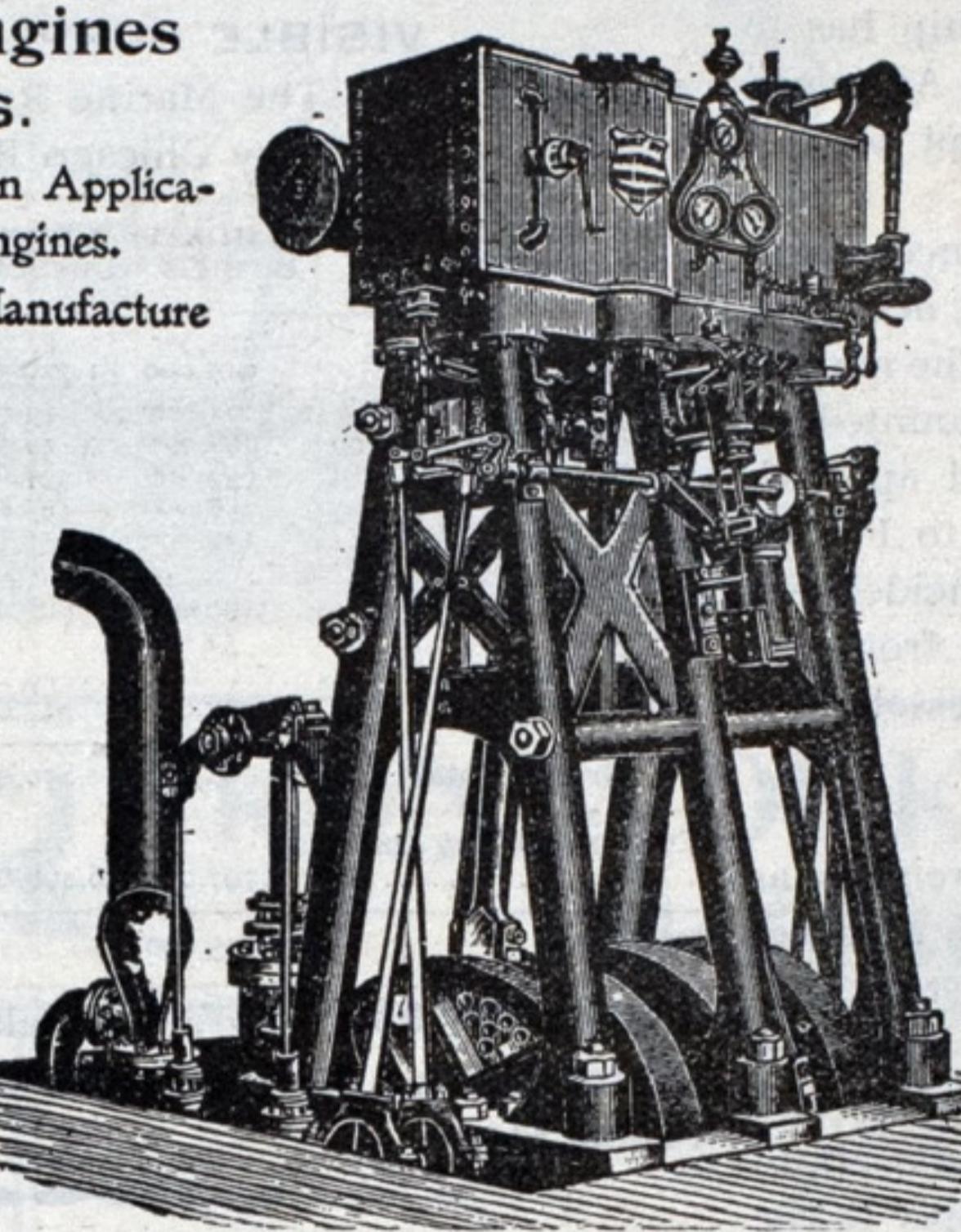
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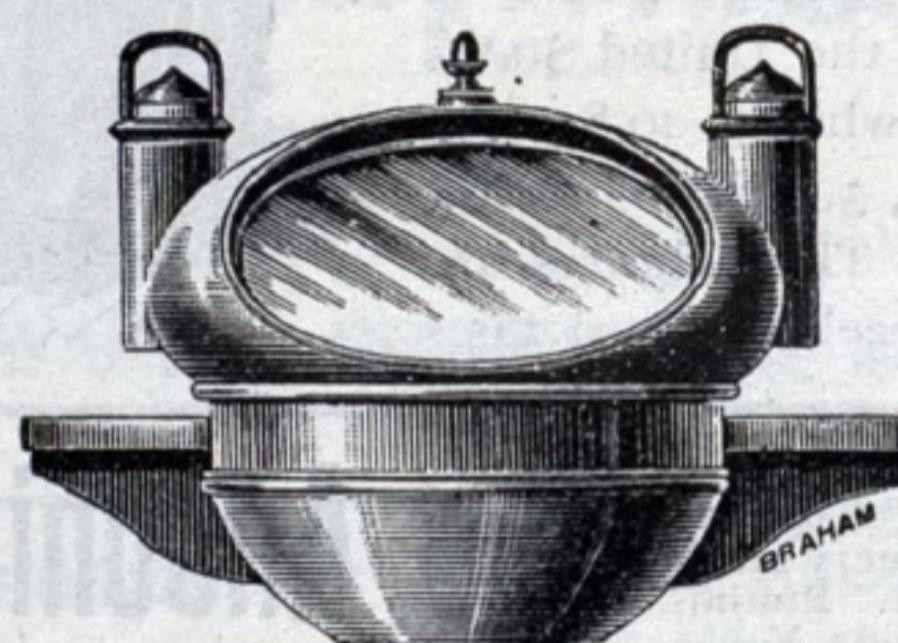
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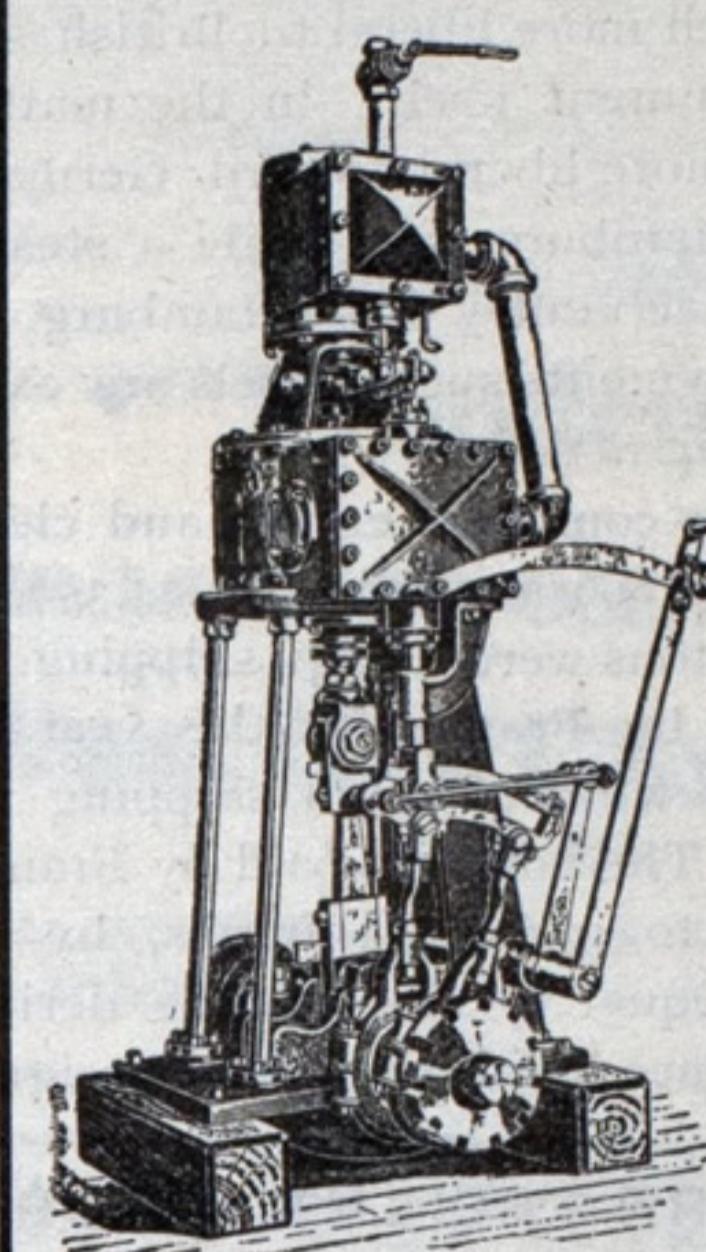
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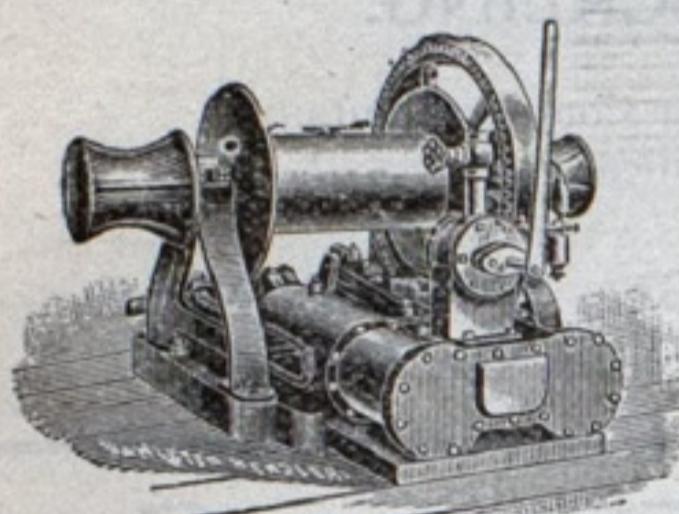
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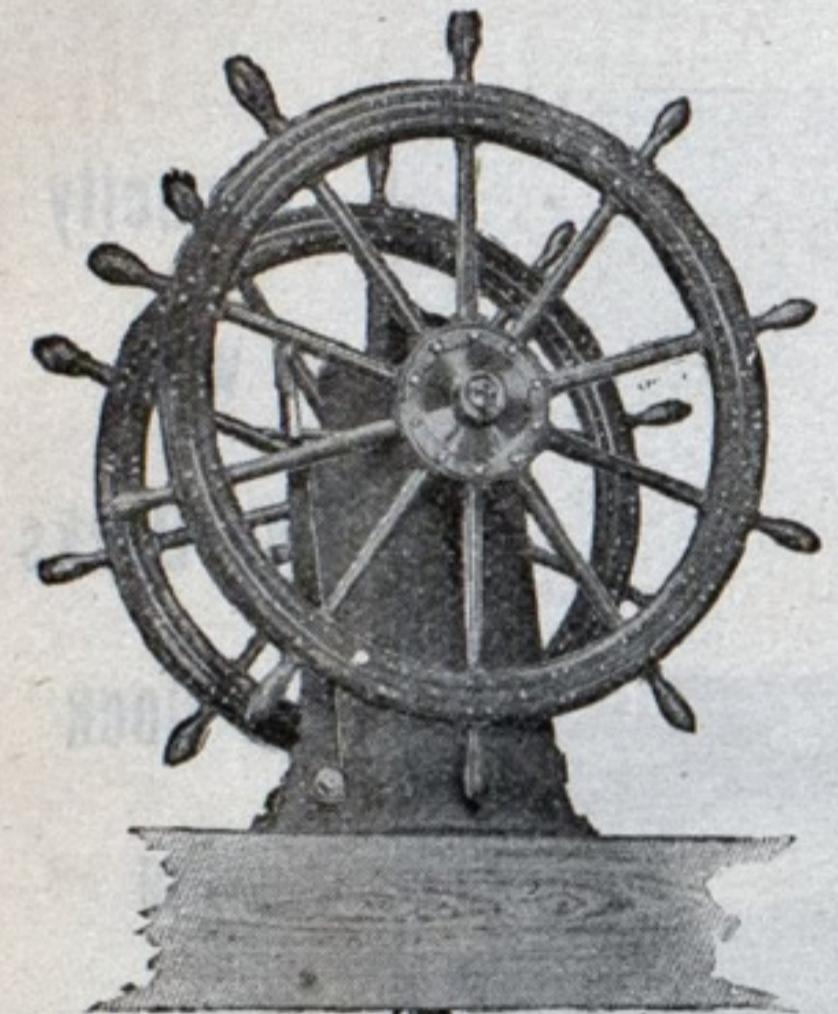
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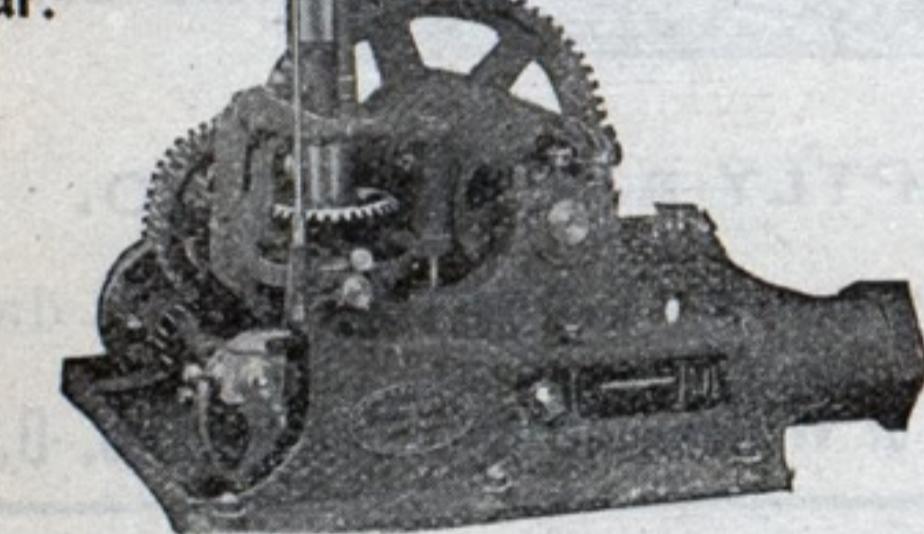
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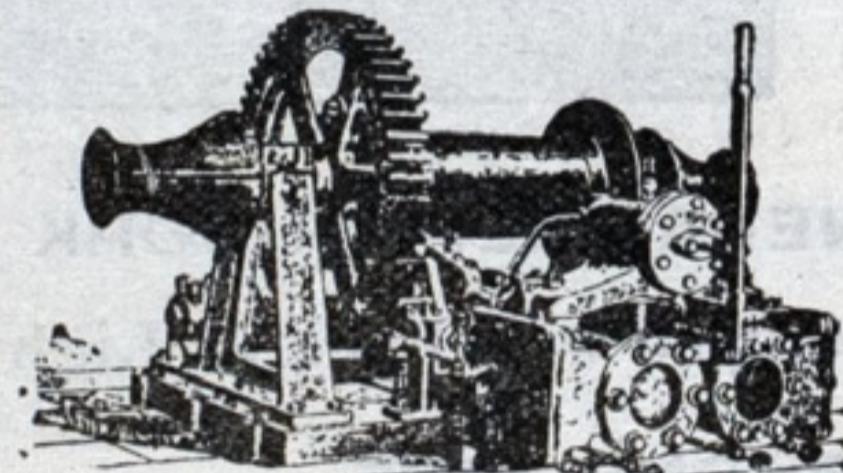
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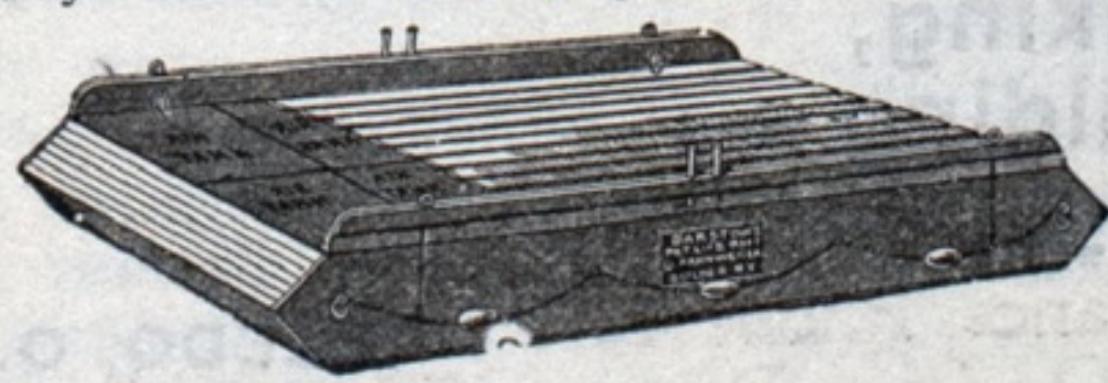
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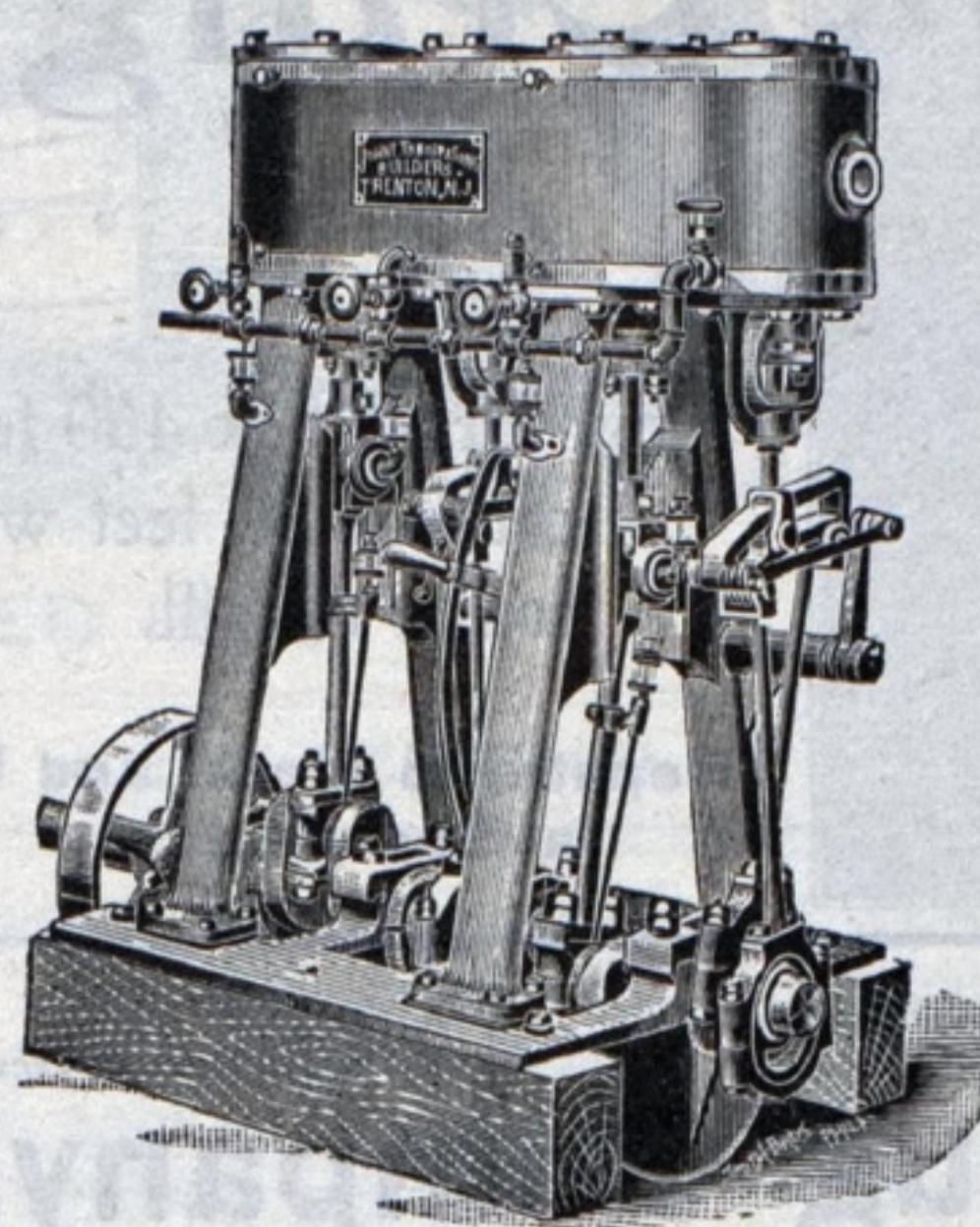
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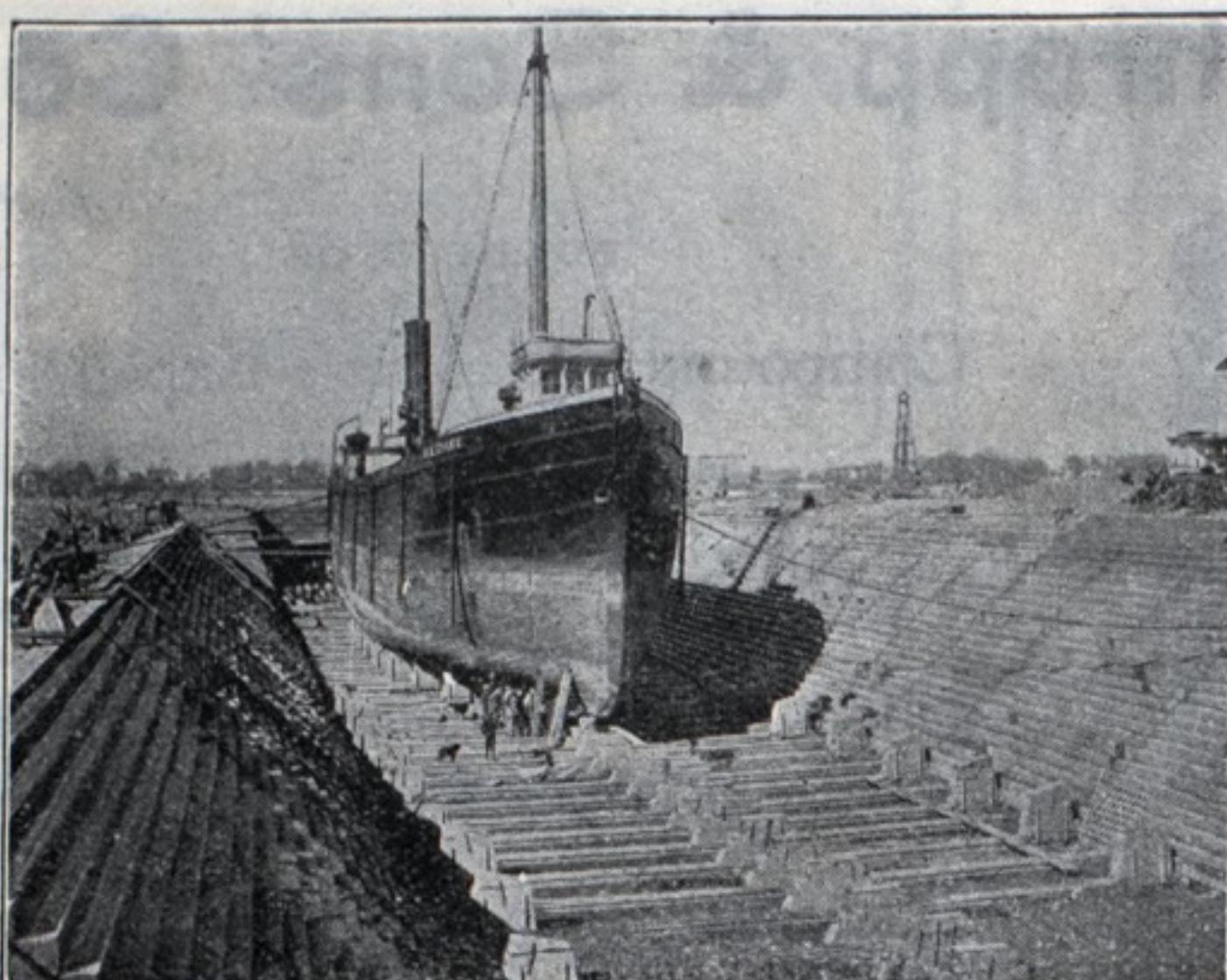
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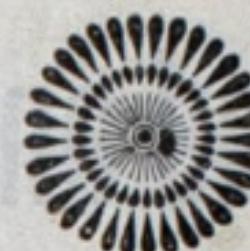
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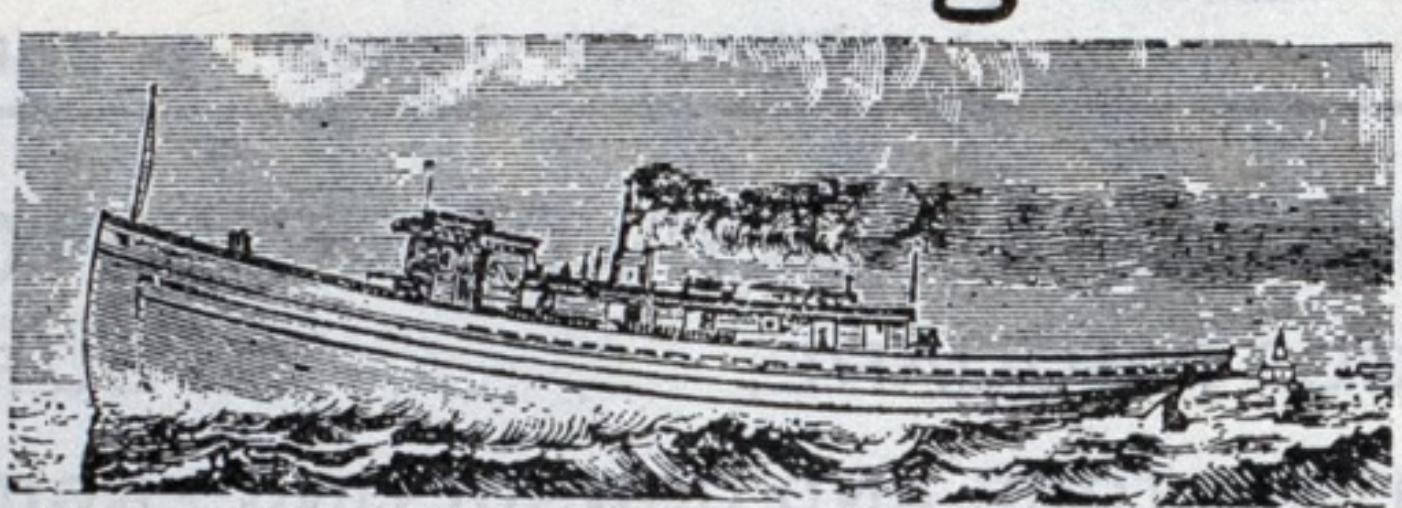
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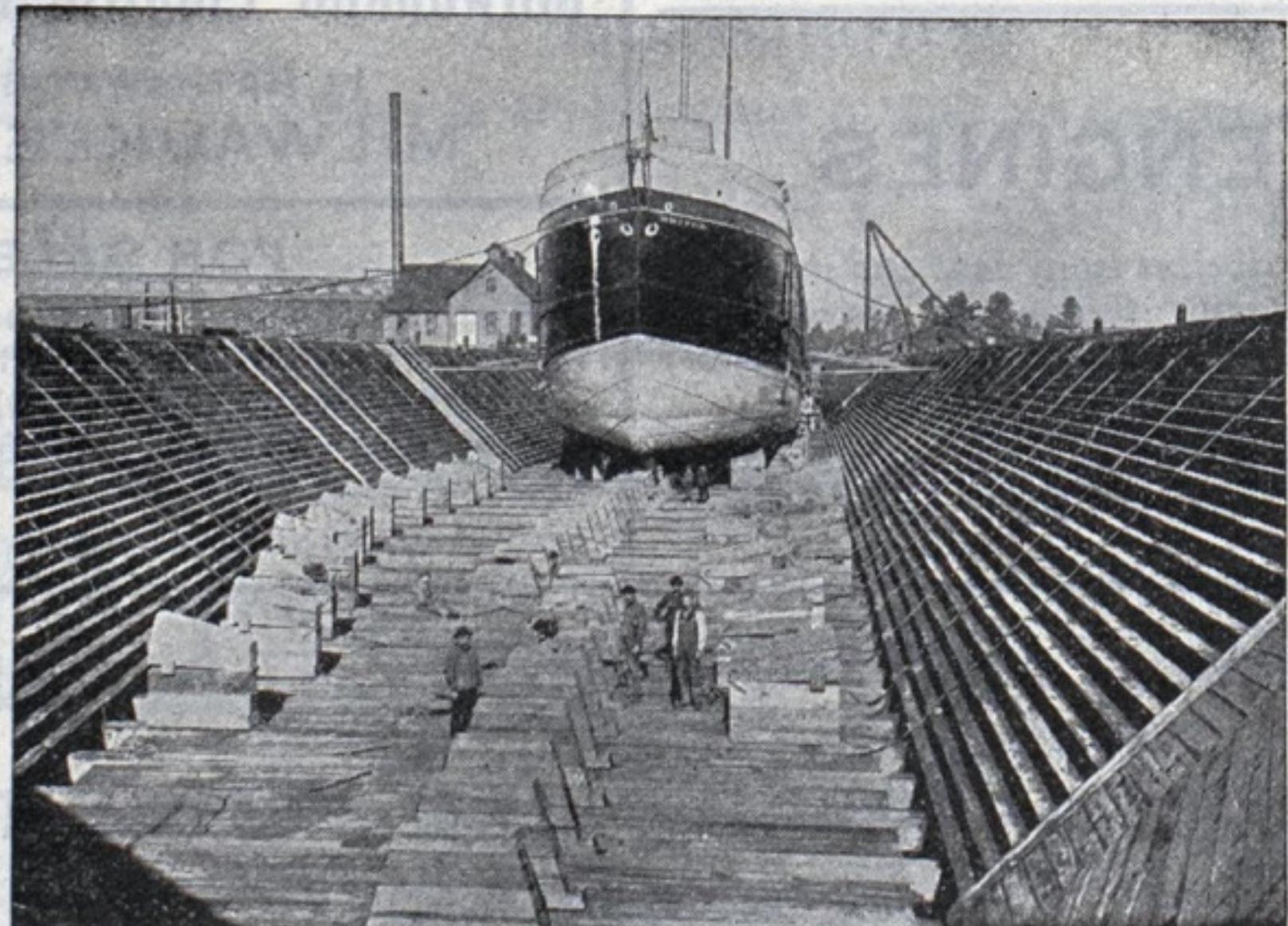
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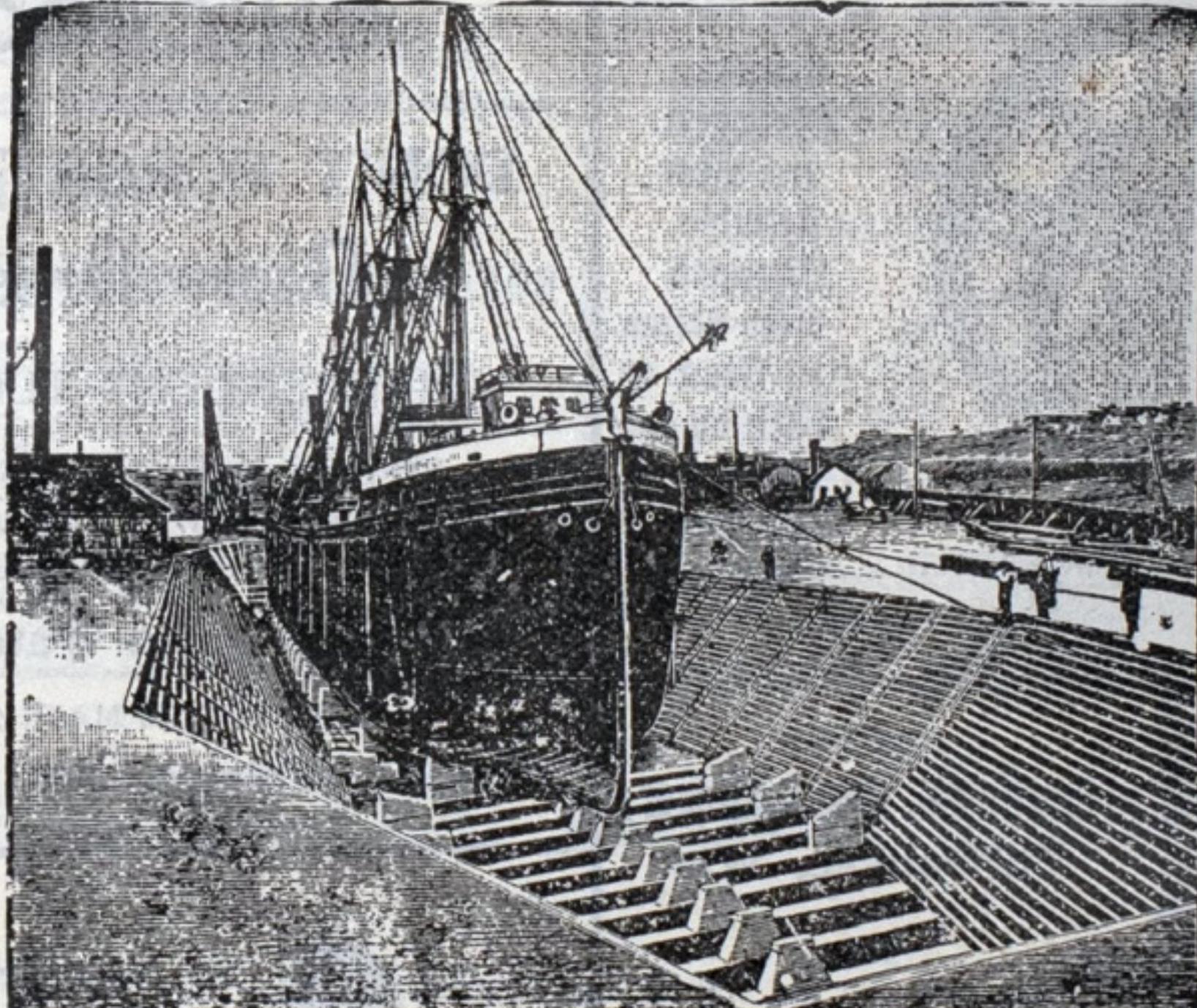
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